Smithsonian

MARCH 2000

Scythian Gold

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The memory is the first thing to go when you own a Dodge Caravan. Quite understandably. A Grand Caravan ES comes with a standard 3.8L V-6 and clutchless AutoStick® transmission – the driving experience is, well, unforgettable. With an All-Wheel-Drive Grand Caravan, the only thing you'll remember is the fun you had in the snow. Not the horrible conditions. Get behind the wheel of a Caravan Sport and you'll receive a handling package that lets you hit the road with all kinds of confidence.

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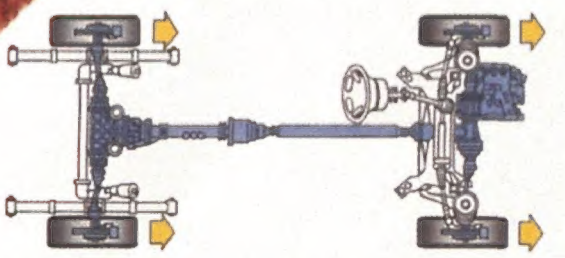

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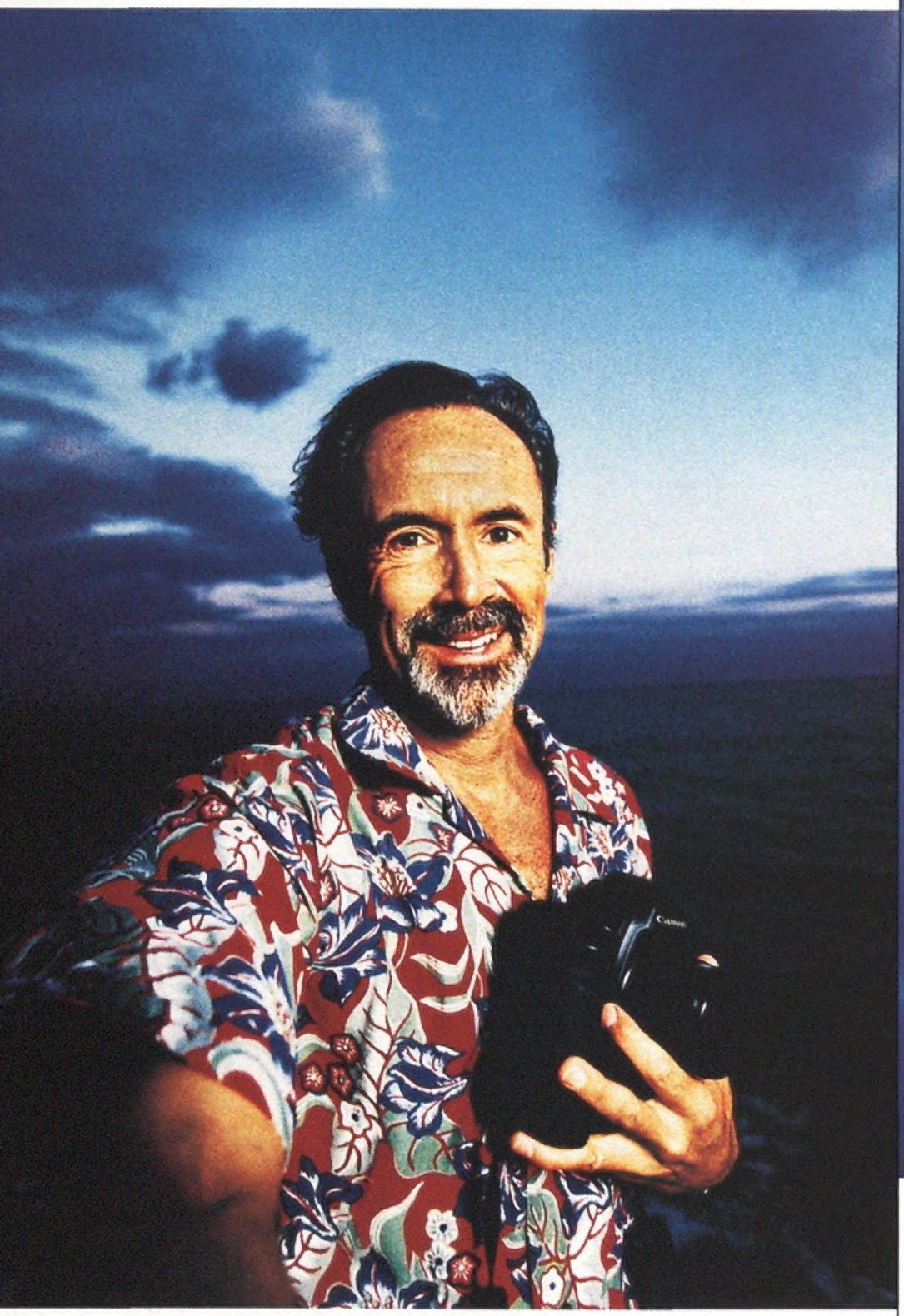
and waves that just won't take direction.

– Walter looss Jr., professional sports photographer

(self portrait)



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–Austin Eckardt, avid surfer, amateur photographer

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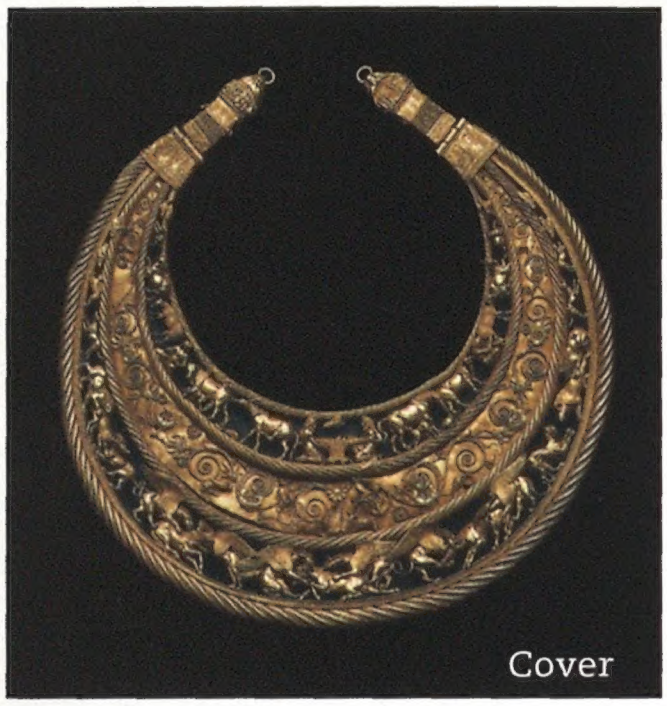
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Cover This gold pectoral, made by a Greek master craftsman in the fourth century B.C. for a Scythian patron, depicts contrasting sides of Scythian life: a tranquil domesticity, as illustrated by the two men stitching a fleece, and a violent, mythic side, seen in the griffins attacking a horse.
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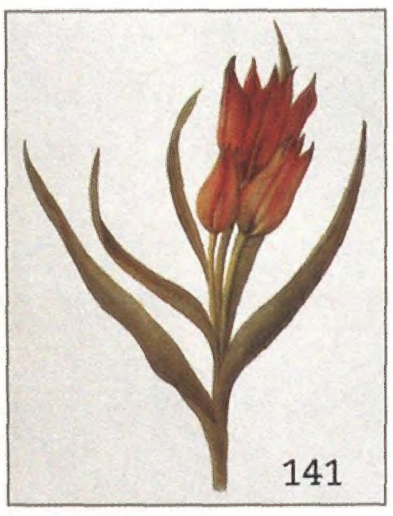
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The New Man at Air and Space

A NOTE FROM THE SECRETARY

THE NEW YEAR BROUGHT A NEW DIRECTOR TO THE National Air and Space Museum (NASM), and it appears to be a match made in the heavens. Gen. John R. Dailey (USMC, Ret.) now heads the world's most popular museum, coming to us from NASA, where as associate deputy administrator he guided the management process that reinvented the agency and restored its energetic focus.

There's a picture of Jack Dailey on a corridor wall near his office, and he looks every bit the traditional director (or company president or diplomat). But it's the picture on this page that Dailey prefers, and that suggests why he is ideally suited to bringing NASM into the new century. Dailey has more than 6,000 hours of pilot's experience in fixed and rotary-wing aircraft. He flew 450 missions in Vietnam and received numerous decorations for combat operations. During his 36 years as a marine, he took on an impressive range of command assignments, and when he retired, he was assistant commandant of the Corps. Having this seasoned leader and passionate lover of flight at NASM is a happy conjunction of man and mission.

John R. Dailey has the right stuff to head the National Air and Space Museum.

One of Dailey's pressing objectives will be to keep on track NASM's ambitious plans for an additional facility on a 176-acre plot near Dulles Airport in Virginia. The Dulles Center is to open in time to mark the 100th anniversary of the Wright brothers' flight, on December 17, 2003. This vast new building will display more than 200 aircraft, 100 spacecraft, including a space shuttle, and numerous other significant artifacts related to the history of aviation and spaceflight. Many of the items will be suspended from the ceiling, appropriately aloft.

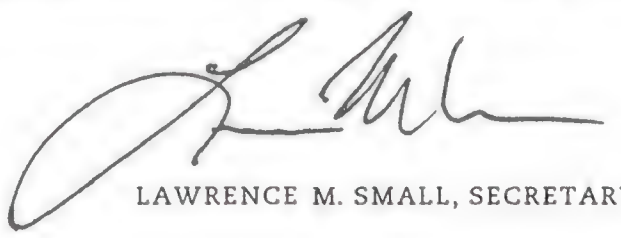
Dailey will also make certain that NASM continues to bring energy and imagination to its fundamental task of documenting the history of flight. "Think of the miracles we've accomplished in the short space of a century," he instructs. "The Wright brothers adjusted the wings of their craft by hand; we are now on the verge of completing a space station of astonishing technical complexity. I want the collections and the presentation of the collections to make people realize how fortunate we all are that human beings won't accept limits to what's possible."

In the 1960s and '70s, the nation collectively held its breath each time Americans were sent into space in those awkward-looking capsules that bobbed helplessly in the ocean at the end of flight. We had a sense of common national endeavor about space exploration. If that lost fervor is one day revived, NASM perhaps can share some of the credit for helping to rekindle it.

So we welcome Jack Dailey to NASM, after the sad circumstance of the death of Donald D. Engen, the previous director, in a glider accident last summer. Engen, who was Dailey's close friend, held 29 decorations and awards, including the Navy Cross, the Navy's highest award for valor. Following Engen's death, acting director Donald S. Lopez kept the museum steady. I want to take this opportunity to acknowledge not just that most recent leadership but also Lopez's decades of achievement at the museum since his arrival in 1972.

Don Lopez flew a shark-faced P-40 in the skies above China during one of the most remarkable air campaigns of World War II. His absorbing memoir of the war, *Into the Teeth of the Tiger*, was reissued in 1997 as part of the Smithsonian History of Aviation Series. When he was 3½ years old, Lopez tells us in the book, he was taken to see the triumphant Lindbergh on parade through the streets of Brooklyn. Somehow he learned that the focus of everyone's attention was a flier: "I cannot remember a time since when I was not interested in flight."

Men like Jack Dailey and Don Lopez and Don Engen, in love with flight and with making its science and romance and risk vivid for others, serve us well. We have heroes on the premises, and we should not take them for granted.



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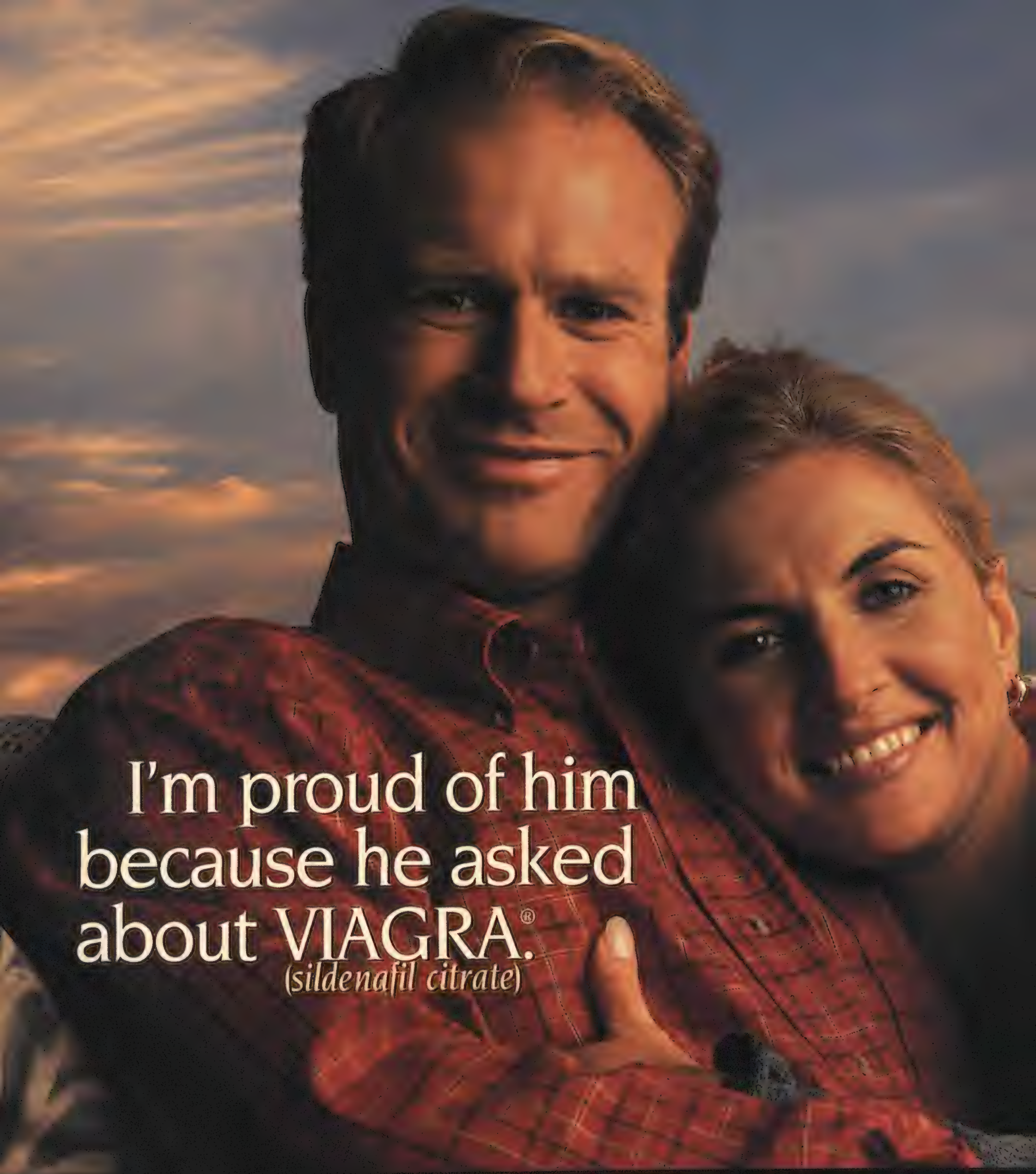

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VIAGRA is not for everyone. Be sure to ask your doctor if your heart is healthy enough to handle the extra strain of sexual activity. If you have chest pains, dizziness, or nausea during sex, stop and immediately tell your doctor.

If you're a man who uses nitrate drugs, never take VIAGRA—your blood pressure could suddenly drop to an unsafe level. With VIAGRA, the most common side effects are headache, facial flushing, and upset stomach. VIAGRA may also briefly cause bluish vision, sensitivity to light, or blurred vision. In the rare event of an erection lasting more than 4 hours, seek immediate medical help. Remember to protect yourself and your partner from sexually transmitted diseases.

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TIENT SUMMARY OF INFORMATION ABOUT

VIAGRA®
(sildenafil citrate) tablets

This summary contains important information about VIAGRA®. It is not meant to take the place of your doctor's instructions. Read this information carefully before you start taking VIAGRA. Ask your doctor or pharmacist if you do not understand any of this information or if you want to know more about VIAGRA.

This medicine can help many men when it is used as prescribed by their doctors. However, VIAGRA is not for everyone. It is intended for use only by men who have a condition called erectile dysfunction. **VIAGRA must never be used by men who are taking medicines that contain nitrates of any kind, at any time. This includes nitroglycerin. If you take VIAGRA with any nitrate medicine your blood pressure could suddenly drop to an unsafe or life threatening level.**

What Is VIAGRA?

VIAGRA is a pill used to treat erectile dysfunction (impotence) in men. It can help many men who have erectile dysfunction get and keep an erection when they become sexually excited (stimulated).

You will not get an erection just by taking this medicine. VIAGRA helps a man with erectile dysfunction get an erection only when he is sexually excited.

How Sex Affects the Body

When a man is sexually excited, the penis rapidly fills with more blood than usual. The penis then expands and hardens. This is called an erection. After the man is done having sex, this extra blood flows out of the penis back into the body. The erection goes away. If an erection lasts for a long time (more than 6 hours), it can permanently damage your penis. You should call a doctor immediately if you ever have a prolonged erection that lasts more than 4 hours.

Some conditions and medicines interfere with this natural erection process. The penis cannot fill with enough blood. The man cannot have an erection. This is called erectile dysfunction if it becomes a frequent problem.

During sex, your heart works harder. Therefore sexual activity may not be advisable for people who have heart problems. Before you start any treatment for erectile dysfunction, ask your doctor if your heart is healthy enough to handle the extra strain of having sex. If you have chest pains, dizziness or nausea during sex, stop having sex and immediately tell your doctor you have had this problem.

How VIAGRA Works

VIAGRA enables many men with erectile dysfunction to respond to sexual stimulation. When a man is sexually excited, VIAGRA helps the penis fill with enough blood to cause an erection. After sex is over, the erection goes away.

VIAGRA Is Not for Everyone

As noted above (*How Sex Affects the Body*), ask your doctor if your heart is healthy enough for sexual activity.

If you take any medicines that contain nitrates–either regularly or as needed–you should never take VIAGRA. If you take VIAGRA with any nitrate medicine or recreational drug containing nitrates, your blood pressure could suddenly drop to an unsafe level. You could get dizzy, faint, or even have a heart attack or stroke. Nitrates are found in many prescription medicines that are used to treat angina (chest pain due to heart disease) such as:

- nitroglycerin (sprays, ointments, skin patches or pastes, and tablets that are swallowed or dissolved in the mouth)
- isosorbide mononitrate and isosorbide dinitrate (tablets that are swallowed, chewed, or dissolved in the mouth)

Nitrates are also found in recreational drugs such as amyl nitrate or nitrite ("poppers"). If you are not sure if any of your medicines contain nitrates, or if you do not understand what nitrates are, ask your doctor or pharmacist.

VIAGRA is only for patients with erectile dysfunction. VIAGRA is not for newborns, children, or women. Do not let anyone else take your VIAGRA. VIAGRA must be used only under a doctor's supervision.

What VIAGRA Does Not Do

- VIAGRA does not cure erectile dysfunction. It is a treatment for erectile dysfunction.
- VIAGRA does not protect you or your partner from getting sexually transmitted diseases, including HIV–the virus that causes AIDS.
- VIAGRA is not a hormone or an aphrodisiac.

What To Tell Your Doctor Before You Begin VIAGRA

Only your doctor can decide if VIAGRA is right for you. VIAGRA can cause mild, temporary lowering of your blood pressure. You will need to have a thorough medical exam to diagnose your erectile dysfunction and to find out if you can safely take VIAGRA alone or with your other medicines. Your doctor should determine if your heart is healthy enough to handle the extra strain of having sex.

Be sure to tell your doctor if you:

- have ever had any heart problems (e.g., angina, chest pain, heart failure, irregular heart beats, or heart attack)
- have ever had a stroke
- have low or high blood pressure
- have a rare inherited eye disease called retinitis pigmentosa
- have ever had any kidney problems
- have ever had any liver problems
- have ever had any blood problems, including sickle cell anemia or leukemia
- are allergic to sildenafil or any of the other ingredients of VIAGRA tablets
- have a deformed penis, Peyronie's disease, or ever had an erection that lasted more than 4 hours
- have stomach ulcers or any types of bleeding problems
- are taking any other medicines

VIAGRA and Other Medicines

Some medicines can change the way VIAGRA works. Tell your doctor about **any medicines** you are taking. Do not start or stop taking any medicines before checking with your doctor or pharmacist. This includes prescription and nonprescription medicines or remedies. Remember, VIAGRA should never be used with medicines that contain nitrates (see *VIAGRA Is Not for Everyone*). If you are taking a protease inhibitor, your dose may be adjusted (please see *Finding the Right Dose for You.*) VIAGRA should not be used with any other medical treatments that cause erections. These treatments include pills, medicines that are injected or inserted into the penis, implants or vacuum pumps.

Finding the Right Dose for You

VIAGRA comes in different doses (25 mg, 50 mg and 100 mg). If you do not get the results you expect, talk with your doctor. You and your doctor can determine the dose that works best for you.

- Do not take more VIAGRA than your doctor prescribes.
- If you think you need a larger dose of VIAGRA, check with your doctor.
- VIAGRA should not be taken more than once a day.

If you are older than age 65, or have serious liver or kidney problems, your doctor may start you at the lowest dose (25 mg) of VIAGRA. If you are taking protease inhibitors, such as for the treatment of HIV, your doctor may recommend a 25 mg dose and may limit you to a maximum single dose of 25 mg of VIAGRA in a 48 hour period.

How To Take VIAGRA

Take VIAGRA about one hour before you plan to have sex. Beginning in about 30 minutes and for up to 4 hours, VIAGRA can help you get an erection if you are sexually excited. If you take VIAGRA after a high-fat meal (such as a cheeseburger and french fries), the medicine may take a little longer to start working. VIAGRA can help you get an erection when you are sexually excited. You will not get an erection just by taking the pill.

Possible Side Effects

Like all medicines, VIAGRA can cause some side effects. These effects are usually mild to moderate and usually don't last longer than a few hours. Some of these side effects are more likely to occur with higher doses. The most common side effects of VIAGRA are headache, flushing of the face, and upset stomach. Less common side effects that may occur are temporary changes in color vision (such as trouble telling the difference between blue and green objects or having a blue color tinge to them), eyes being more sensitive to light, or blurred vision.

In rare instances, men have reported an erection that lasts many hours. You should call a doctor immediately if you ever have an erection that lasts more than 4 hours. If not treated right away, permanent damage to your penis could occur (see *How Sex Affects the Body*).

Heart attack, stroke, irregular heart beats, and death have been reported rarely in men taking VIAGRA. Most, but not all, of these men had heart problems before taking this medicine. It is not possible to determine whether these events were directly related to VIAGRA.

VIAGRA may cause other side effects besides those listed on this sheet. If you want more information or develop any side effects or symptoms you are concerned about, call your doctor.

Accidental Overdose

In case of accidental overdose, call your doctor right away.

Storing VIAGRA

Keep VIAGRA out of the reach of children. Keep VIAGRA in its original container. Store at room temperature, 59°-86°F (15°-30°C).

For More Information on VIAGRA

VIAGRA is a prescription medicine used to treat erectile dysfunction. Only your doctor can decide if it is right for you. This sheet is only a summary. If you have any questions or want more information about VIAGRA, talk with your doctor or pharmacist, visit www.viagra.com, or call 1-888-4VIAGRA.

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THE LAST PAGE

WHAT A SILLY IDEA IT IS FOR DONALD Dale Jackson to suggest, as he did in the January 2000 issue, abolishing Rhode Island and annexing it to Connecticut. To what would all the giant oil slicks of grounded tankers or the craters of impacting asteroids or raging wildfires be compared? For a disaster site to be identified as a really big deal, it must be quantified on the Rhode Island scale, as in "a spread of wreckage the size of Rhode Island." Without our state, no one would know how huge the catastrophe is.

Gary T. Boden
Exeter, Rhode Island

AS A UNITED STATES SENATOR FROM Rhode Island and former mayor of its second-largest city, Warwick, I would like to point out why Mr. Jackson, a Connecticut resident, is so envious of Little Rhody.

That our history inspires envy in our neighbors is unfortunate yet predictable. Unlike Connecticut, which was established almost 20 years later by Puritans, Rhode Island was created as a sanctuary of religious freedom and of independent thought. Roger Williams, the founder of Rhode Island, established the city of Providence—meaning "divine direction"—in 1636 as an alternative to the repressive atmosphere of Puritan society in neighboring colonies, such as Connecticut. Portsmouth, Newport and Warwick soon followed as safe harbors from religious oppression. In fact, the religious freedom that prevailed in early Rhode Island made it a refuge for several persecuted sects, including the Baptists (America's first Baptist church was formed in Providence in 1639), Quakers, Jews (America's oldest synagogue is located in Newport) and French Huguenots.

The royal patent granted to Roger Williams in 1644, and the royal charter that was issued by King Charles II in 1663, guaranteed complete religious liberty and established a self-governing colony with total autonomy. They also strengthened territorial claims of Rhode Island, which were being challenged by—no surprise here—the residents of Connecticut. Liberty was enshrined as the Rhode Island raison d'être when the colony approved the first law against slavery in North America in 1652.

MATT WUERKER

Rhode Island's tradition of independence continued to mark its actions as the colonies struggled against the persecution by Parliament. As early as 1764, years before Lexington and Concord, Rhode Islanders battled the British.

In May 1776, two full months before the other colonies, the General Assembly of Rhode Island formally declared independence from Great Britain, thus creating the New World's first free republic. After 14 years' existence as an independent nation-state, Rhode Island, which

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always dared to be different, became the last of the original Colonies to ratify the U.S. Constitution.

Today, Rhode Island boasts 20 percent of America's historic landmarks, 100 beaches and 2,300 acres of parks. While I'm sure Connecticut would make a fine addition to Rhode Island, I profess that the Ocean State is doing just fine without it.

Lincoln D. Chafee
United States Senate
Rhode Island

CONNECTICUT IS STILL A STATE? I thought it had become a borough of New York City long ago.

Patrick J. Lynch
Providence, Rhode Island

I AM A PROUD CITIZEN OF RHODE Island, and I am also one who appreciates self-deprecating humor. However, an attempt at humor that tends to diminish the stature of another sometimes fails and can be offensive. Sadly, that is how I view Mr. Jackson's column. Unfortunately, there are those who may think there is an iota of truth in it.

Printing an article that potentially offends 1 million people is below my expectations of the standards of SMITHSONIAN magazine.

Peter F. Kilmartin
Rhode Island House of Representatives
Pawtucket, Rhode Island

I PROPOSE THAT MR. JACKSON GIVE his combined territory a name that would properly reflect the feelings of the *real* Yankee states lying north of Rhode Island and Connecticut: Baja New England.

Fred B. Chester
Stonington, Connecticut

DONALD DALE JACKSON'S TONGUE-IN-cheek premise rallies this proud Rhode Island native to mount a defensive. Rhode Island has, in Providence, the largest district of Federal and Colonial architecture in America. Within this district, we have our Tony Award-winning Trinity Repertory Company, the newly expanded Providence Performing Arts Center and an array of alternative arts organizations, featuring original music, plays, dance and poetry (we have our own Poet Laureate and a Poetry Slam team that won the nationals).

We have an outdoor skating rink twice the size of Rockefeller Center's. Waterfire Providence, a multimedia display of fire on our rivers, attracts hundreds of thousands of people to Providence, a city that inspired NBC's hit series of the same name (I keep looking, in vain, for the debut of

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Hartford) and that was selected as the first site of ESPN's *X Games* and NBC's *Gravity Games*.

I invite Mr. Jackson to visit Providence and Rhode Island. Once here, why would he want to leave?

Vincent A. Cianci, Jr.
Mayor of Providence
Providence, Rhode Island

SAY, WHAT ABOUT CALIFORNIA? ANY state that size should be split into three so that the rest of us can have a voice without being drowned out.

Lorna M. Dobson
Providence, Rhode Island

MR. JACKSON, DON'T LAY THAT SMALL stuff on us. Our governor is bigger than yours (second only to Minnesota's Jesse Ventura).

And our official state name is longer than yours: The State of Rhode Island and Providence Plantations.

Frank Caswell
Jamestown, Rhode Island

WHAT DOES "CONNECTICUT" MEAN anyway, and what does it connect? Conversely, what does it cut?

Elaine DeLuca
Cranston, Rhode Island

AS A NEW ENGLANDER, I WISH TO thank Donald Dale Jackson for his concern over New England's geographic integrity, but as a Rhode Islander, I cannot endorse his provocative proposal to achieve more aesthetically pleasing boundary lines in the Northeast. Mergers have become a mania on Wall Street, and it was only a matter of time before someone took this mentality beyond the boardroom. It would be wrong, however, to eliminate a state with so many "firsts," including being the state that in 1793 ignited the U.S. Industrial Revolution with Samuel Slater's textile mill in Pawtucket.

Let's leave things the way they are. After all, good things do come in small packages.

June N. Gibbs
Rhode Island Senate
Middletown, Rhode Island

PEOPLE AROUND HERE THINK THAT MR. Jackson's plan is a good start, but it would take most of New England to make a decent-sized state.

Jeff Friedman
Anchorage, Alaska

IF YOU WANT TO TALK ABOUT RIDICulous, let's discuss the state of Alaska. It straddles three time zones.

Gene Buck
Seattle, Washington

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and financing rates for the car you've chosen. And you can even begin the credit application process online. To make all of this even easier, your GM BuyPower manager is available online to help you get your best purchase price and to make sure that price is guaranteed at the dealership. It all adds up to a six-letter word worth 10 points: Simple.

MOVING BIG STUFF

I WANT TO COMPLIMENT WRITER Wendy Mitman Clark on her article "Moving Big Stuff." I am a driver and can relate very well. Those guys who do oversize, however, are a cut above and deserve the recognition. Her description of the tight corner was very funny. It made me laugh to think about tight corners and some of our other trials on the road.

Wayne Collier
Nocatee, Florida

ONE OF THE BIGGEST MOVERS OUT there is the NASA crawler that transports the launch platform and the space shuttle to and sometimes from the two shuttle launchpads. Information about the crawler-transporter can be found at www.ksc.nasa.gov/facilities/crawler.html.

Kenneth W. Zingrebe
Houston, Texas

YALTA

MY LATE FATHER PLAYED A SMALL part in the events leading up to the Big Three conference that Robert Wernick described in his article "Yalta: A Witness to History." My father was a Romanian Jew who had been pressed into trench-digging duty by a unit of the Hungarian Army. The Russians captured the unit and sent it to a prisoner-of-war camp near the Black Sea. Consequently, my father was one of the many POWs used by the Russians to prepare the conference site for the participants.

Philip Furspan
Ann Arbor, Michigan

THE PHOTOGRAPH YOU RAN ON PAGE 110 shows soldiers of L Company, 26th Infantry Regiment, 1st Infantry Division ("The Big Red One") marching along a fog-shrouded road near Murringen, Belgium, during the Battle of the Bulge. The picture was taken by a U.S. Army photographer.

Arthur F. Lustig
South Euclid, Ohio

BRECK GIRLS

I THOROUGHLY ENJOYED READING THE article by Mimi Minnick about Breck Girls. I found one inaccuracy, however. In the caption on page 99, you wrote that the campaign "ended in 1978, although it was briefly revived in 1995." I had the privilege of becoming a Breck Girl in 1988 and being inducted into the Breck Girl Hall of Fame on July 6, 1992. After a ten-year hiatus, the campaign was revived and a new concept was incorporated, using four women from four different regions of the United States.

Cyndi S. Glaub
Cincinnati, Ohio

IN ITS OCTOBER 1964 ISSUE, THE IRreverent *MAD* magazine published an advertisement for "Blecch" shampoo. The "Blecch Boy" was mop-topped Ringo Starr, drawn in the soft, pastel style of Charles Sheldon.

Don Wells
Omaha, Nebraska

LETTERS TO THE EDITOR

IN THE EDITOR'S NOTE THAT CORrectly explained why the statue of Tamamend at the U.S. Naval Academy is called Tecumseh, you incorrectly referred to students at the USNA as "cadets." They are midshipmen. Cadets attend West Point.

Ruth Geer
Charleston, South Carolina

INTEL

JAKE PAGE'S ARTICLE "MAKING THE Chips that Run the World" was excellent, even if we only saw a fraction of what goes on there. You incorrectly cited Moore's Law, however. The power of the chip doubles every 18 months, not 12.

Tab Julius
Ashland, New Hampshire

We cited the figure that Moore first estimated in the 1960s. In 1995, he recalculated this and said that the doubling time was closer to two years. The actual rate is in between, or 18 months. Ed.

TREBUCHET

EVAN HADINGHAM DID NOT MENTION in "Ready . . . Aim . . . Fire!" the trebuchet that Chris Stevens built during the episode of the television program *Northern Exposure* titled "Burning Down the House." Chris had planned to hurl a cow, but since that had already been done in the film *Monty Python and the Holy Grail*, he opted for a charred upright piano donated by Maggie O'Connell.

Although a random splash in the middle of a river is not as challenging as hitting a particular spot on a wall, the fling was quite spectacular, or as Chris remarked, "It's not the thing you fling but the fling itself."

Remo Bianco
Syracuse, New York

WRITE TO SMITHSONIAN

Letters for consideration in this column must include your daytime telephone number, full name and postal address. Transmit mail to LettersEd@simag.si.edu or send it to Smithsonian Letters Editor, P.O. Box 44400, Washington, D.C. 20026-4400. Letters may be edited for clarity and length.

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POINTS OF INTEREST

Two for Tea

AMERICA'S ONLY COMMERCIAL TEA CROP IS GROWN ON AN ISLAND WITH PLANTS MORE THAN A CENTURY OLD

BY DONOVAN WEBSTER

Mack Fleming, left, and his business partner Bill Hall display their wares amid neatly trimmed bushes on their plantation off the coast of South Carolina.

EARLY ON A SUNNY MORNING, MACK FLEMING AND I relax in two patio chairs under a phalanx of live-oak trees and enjoy a couple of glasses of sweet, smooth iced tea. It's not Darjeeling from India or Lapsang souchong from China. It's Fleming's baby, the only tea produced commercially in North America, and it's cultivated right here at the Charleston Tea Plantation on Wadmalaw Island, off the coast of South Carolina.

Fleming is a shrewd, slow-talking, shiny-pated South Carolina native who once served as the head of a college horticulture department but has long since become a tea expert. He's a man at home on this island, 20 miles south of Charleston's seaport; indeed, he seems as rooted here as the oaks looming above us. His partner, William Barclay Hall, has a gleaming mane of long hair, rides horses and drives a red Lotus. He's Canadian by birth, British by tea-taster training and South Carolinian by choice. Along with their families and a staff of about 40, Fleming and Hall manage the 127 acres of Lowcountry land and 320 varieties of plant that produce the robust blend called American Classic.

"Tea is fascinating," Fleming muses. "The plants here are at least 112 years old. Some tea plants in China and India are 800 years old, and they're still healthy and producing."

He gestures across the driveway, where acres of green, square-trimmed tea bushes stretch almost to the horizon. "These plants," Fleming says, "are descendants of the first tea plants ever brought to the United States. And because they're hearty and grow so thick, we don't have to use insecticides or fungicides. Each plant is also grown from original cuttings, not from seeds fertilized by different parents. We want the same plants every time, so we take cuttings from existing plants and grow direct clones. It's more work, but it keeps quality consistent."

Fleming and Hall bought the plantation in 1987 from the Lipton company, which had used it as an experimental plot for decades. But the story of tea-growing in the United States actually begins in 1799. According to Fleming, that's when the first tea bushes arrived in this country—probably by mistake. "They came with a large shipment of other plants for the French botanist André Micheaux, who was putting together what is today the Middleton Place Gardens near Charleston."

In 1848, a planter named Junius Smith took some Micheaux tea cuttings from Middleton Place, along with others from overseas, and nurtured them into the first commercial tea crop at his Golden Grove Plantation, some 20 miles from Wadmalaw Island. "Smith's tea business was a success for five years," Fleming says, "right up until the time he was shot and killed."

In 1874, a landed gentleman named Dr. Alexis Forster tried tea farming, this time in the South Carolina burg of Georgetown. The venture thrived for five years—again, right up until its proprietor's untimely death. "Dr. Forster is said to have been traveling home in his buggy and was

ROBERT NOONAN

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set upon by 'rascals,'" Fleming tells me. "While he was being chased, his buggy hit a rock in the road and flipped. He was killed."

Next came the biochemist Dr. Charles Shepard, who in 1888 set up the 100-acre Pinehurst Tea Plantation. Within a few years, Pinehurst's tea became a national favorite. But after Shepard's death in 1915—"of natural causes," Fleming notes—the plantation went to pot.

Lipton established its research station on Wadmalaw Island in 1963. Taking cuttings from the plants at Pinehurst, the company set about seeing if high-quality tea could still be grown with them. The results were promising, and in 1978 Mack Fleming joined Lipton as the farm's director of tea horticulture.

Then, in 1985, a tea taster and buyer for an American supermarket chain paid a visit. Bill Hall had read an article in a trade magazine that said tea couldn't be successfully grown for commercial use in America. The farm on Wadmalaw Island convinced him otherwise. The sandy soil drained well, the climate was humid enough. It looked like a perfect place to grow tea.

Hall had apprenticed as a taster for four years in London, historic center of the world's tea trade, before working as a dealer in England, Argentina and the Netherlands. During his apprenticeship, he tasted hundreds of cups a day, every day. "The idea was for me not to make value judgments on which tea I liked, but to learn what made each different brand's flavor of tea unique."

Growing tea in the United States was a dream Hall had long cherished. Soon after he and Fleming met, they purchased Lipton's operation and set about making a commercial crop. American Classic was launched that year, and its sales have climbed steadily ever since.

Fleming grows the tea and Hall processes and blends it to his taste. "Americans drink most of their tea as iced tea," Hall says. "It accounts for 80 percent of the 200 million pounds of tea sold here each year. Americans also like their iced tea to have a bright, light flavor. So that's what we blend our tea for."

Hall has now led me through a few sets of swinging doors inside the offices, and we've emerged in the plantation's manufacturing warehouse. Straight ahead, whirring machines pack hundreds of tea bags per minute; just beyond, we enter the actual processing area.

To Hall, one of the most striking things about tea is its simplicity. "There are only three types in the world: green, oolong and black," he says. "After that, it's all blending and flavoring. And simplifying things even further, all three types of tea come from the same plant: *Camellia sinensis*. It's the way each type of tea is processed that makes the difference. For green tea, you steam it before grinding and drying it, which destroys an enzyme in the leaf that turns it brown. For oolong tea, you allow it to oxidize for a shorter period than for black tea. And for black tea, which is the type we make, the process goes like this . . . "

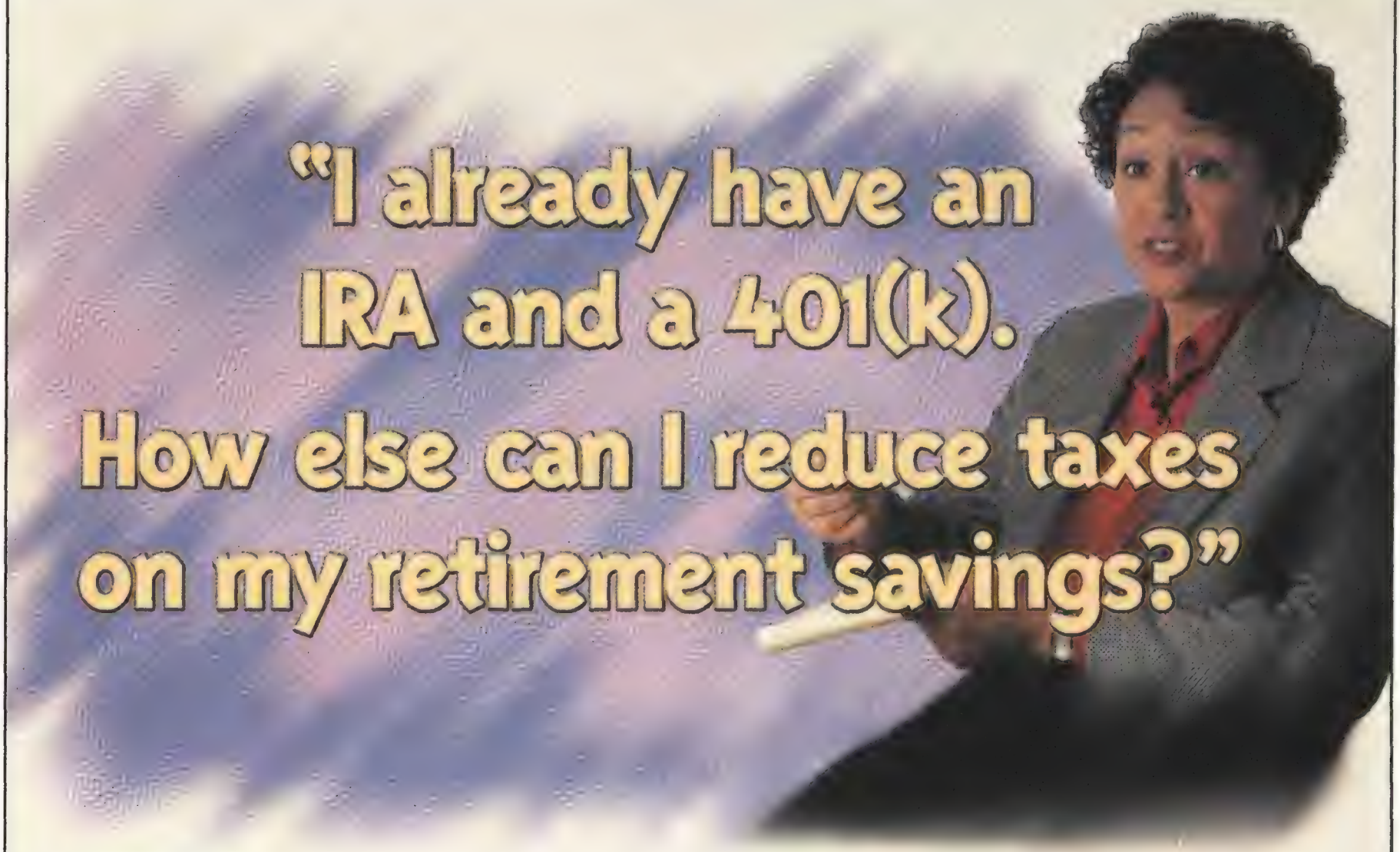
He walks me to several 5-foot-tall, 15-foot-long boxes edged by electric fans and topped by screens. These, he tells me, are the "withering boxes." The plantation's harvesting machine clips the new growth on top of each tea bush every 15 to 18 days during the May-to-October growing season. The harvested leaves are spread across the withering box screens and dried for 18 hours. Then they're transported to a grinder for "macerating," a sort of chewing that exposes the tea juices. Hall reaches into a pile of macerated leaves to show me how the processing oxidizes them, turning them a lustrous coppery-orange color. After maceration, the leaves are dried some more before stems and other undesirable fibers are removed.

Once the finished batches of a clipping have been dumped into large, deep boxes lined with plastic bags, Hall goes to work steeping, sipping and mixing the different strains until he gets the flavor he wants. "Sometimes mixing the tea is easy, sometimes it's not," he says. "Depending on the growing conditions, each batch is different." His job is to maintain a uniform taste to the tea.

It's time for lunch. Hall and I walk to his pickup truck and head for a down-home shrimp restaurant just up the island. As he talks and drives, Hall taps the steering wheel with the butt of his right hand for emphasis. "Tea is the greatest crop in the world," he says. "You don't have to till it, so you're not creating erosion. The plants live forever, and you can put 5,200 of them on just one acre. People all over the world start and end their day with a cup of tea. They take comfort from a cup of tea." Passing row after row of the plantation's flat-topped plants, Hall waits a beat, then adds: "Yep, if every crop on earth were as good as tea, the world would be a far better place."

A custom-made harvesting machine makes a pass over four-foot-tall bushes to clip the new leaves (top) for processing.

ROBERT NOONAN



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Bonding through Books

A GOOD READ GIVES MOTHERS AND DAUGHTERS MUCH MORE TO TALK ABOUT THAN JUST THE PLOT

BY MICHAEL KERNAN

Cheryl Green and her daughter Jennifer, left, listen as the Smithsonian's Shireen Dodson explains a point to her daughter Morgan Fykes, right.

HOW DOES A PARENT GET TO TALK TO A CHILD? LONG ago when I was learning to be a teenager, the only times I ever really talked to my father were when we sat in the car waiting for my mother and sisters to come out of the house for church. Something about not being face-to-face, I suppose.

Shireen Dodson, the associate director of the Smithsonian's Anacostia Museum and Center for African American History and Culture, had a better way: five years ago she organized a mother-daughter book club.

Not only did she make a great permanent connection to her daughters Morgan and Skylar, but she wrote a book, *The Mother-Daughter Book Club* (HarperPerennial), that helped launch hundreds of such clubs. If you ask me, the reading of books and more books is perhaps our best single defense against dumbing-down and mental apathy and many of the other ills attributed to TV.

I went to a meeting of Dodson's club—ten mothers and their daughters, who now, after several years, are handsome girls of 12 and 13. The group hadn't met all summer ("They're so tall!" one mother remarked), and it took a while for everyone to settle down in the living room of the suburban Washington, D.C. home of the hosting mother and daughter.

The mothers sat around a coffee table laden with veggies and dips, and their daughters sprawled on the floor at their feet. The book everybody had read for the occasion was *Holes*, by Louis Sachar, nominally about a detention camp for boys but actually about human relations.

At first the talk centered on the plot and characters, with teenage hostess Brittney Fraser asking the questions. The mothers talked a lot, and occasionally the girls had to shush them.

Then suddenly they were discussing what is meant by "popular," and how a girl gets to be that way. The talk took on a new urgency; everyone spoke at once.

A daughter: "Everybody knows it. It's whether you're popular with the guys."

A mom: "We always identified it with being liked, being pretty. So what makes a junior high school girl pretty? Everyone's walking around with braces, still trying to figure out what to do with their hair: What is pretty?"

A daughter: "Pretty is not the same as being liked."

Another daughter: "You can look good, but if the guys don't like you, you're not popular."

A mom: "We're coming back to the underlying theme: it's the guys who define popularity."

A mom: "So how do boys show that they like you?"

A daughter: "Oh, it's when they talk to you after school. A lot of popular girls let everyone know it, and they can be kind of snotty about it."

Then we got down to specifics: popularity is different at an all-girls school than at a coed school; it's different at big schools, where "there are just too many people to have one most-popular." There are groups and a pecking order among the groups, one daughter explained.

And then there are girls who are popular just because they are, and others—like the smart ones and the top ath-

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letes—who are popular for a reason. "The cute girls were the dumb ones in Philadelphia when I was growing up," one mother remarked.

Gradually a picture emerged of life today in junior high school, what it meant to be smart and a girl, and how some teachers were biased toward the smart ones. The prettiest, someone said, were the most confident. And that also helped in their popularity with the boys.

The chatter went on for an hour, and it dawned on me that everybody was learning something rather basic here: the girls, that their moms had gone through pretty much what they were now experiencing; the mothers, that they actually had things in common with their hip daughters.

The idea for the book club came to Shireen Dodson when she and a friend were walking on a beach at Martha's Vineyard, trying to make some sense out of their bright but mysterious 9-year-old daughters.

"Morgan is my middle child," said Dodson. "She kind of danced to her own drummer, but she loved to read and was very social. How could I get to know her better? And suddenly the lightbulb went on: a book club for mothers and daughters!"

The idea was a hit from the start. Morgan picked ten girls her own age, not just her best friends but acquaintances from church and the Girl Scouts and other places.

Under the guise of discussing characters in a book, you can express your own feelings.

"It's more her club than mine," Dodson said. "The girls make up the questions and lead the discussions and do the food. Our group has been pretty consistent—we've lost a couple and picked up a couple, and I've become really good friends with the other moms."

Dodson and her husband, Leroy Fykes, and their three children are all avid readers. The oldest child, Leroy III, is in college now, and the youngest, Skylar, 9, has started a second club. A family friend has organized a father-son reading club, and Dodson said she has heard of mother-son clubs as well as grandmothers and grandchildren. "It really works for any adult-child combination."

The beauty of the book clubs is that, under the guise of discussing characters in a book, you can express your own feelings. As in, "I have this friend who . . . "

A vital benefit of these nonconfrontational meetings, a forum where girls can become passionate in their opinions and hear how they sound to others, is that once the barriers are down the girls tend to talk much more freely with their mothers outside the club.

Grace Speights, center, enjoys the moment as her daughter Ashley Speights, left, and Jessica Talley try to join the lively discussion.

Dodson recommends that a club span no more than two grades of school. With any wider age spread, girls find they are dealing with very different issues.

"When the same thing doesn't strike the whole group as funny, you have a division," she said. *The Mother-Daughter Book Club* is chock-full of such useful tips as well as suggested reading lists.

At this first meeting of the club year, the girls brought books they had read during the summer that they would propose for the club. I was curious about what exactly they read, and Dodson promptly gave me a copy of her second book, *100 Books for Girls to Grow On*.

It's a wonderful mix. The stories go back to Colonial America and forward into the sci-fi future, notably Zimbabwe in the year 2194.

"It's mostly modern literature," Dodson noted, "because this is not school. It's for fun."

Certainly I hadn't expected *The Mill on the Floss*, and I was glad to see that it had gone far beyond the Nancy Drew books. The list includes *The Chronicles of Narnia*, *Charlotte's Web*, the Little House series, and works by Ray Bradbury, Maya Angelou, Rudyard Kipling and Arthur Miller.

"Some of them are definitely what you would call boys' books," Dodson said, "partly because girls need to know what goes through boys' heads and partly because a good book is a good book. If it's written well and offers a good opportunity for discussion, why not?"

Her first book quotes Alice Letvin, who was once president of the Great Books Foundation: "Sometimes children are locked into their own realities. They can become trapped in their own perceptions. One of the great positive and liberating things about discussing a rich story is seeing all the different ways of looking at it that people in the group bring. It can be highly motivating, a kind of revelation for the child."

She is right. It is a creative act to read to oneself, but when you and your friend get something different from the same book, and can talk about it, that's education.

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A Tale of Fatal Feuds and Futile Forensics

A SMITHSONIAN ANTHROPOLOGIST DIGS FOR VICTIMS OF A WEST VIRGINIA MOB MURDER ◆ BY EDWARDS PARK

Henderson Dingess (above) was in-law to two enemies. Son-in-law Al Brumfield (top, at left) was allegedly attacked by Green McCoy and Milt Haley (right), who were hired by Dingess' brother-in-law—and then killed by a mob.

THE NAME JOHN HARTFORD RINGS a bell with country music lovers, for he's a talented performer and composer ("Gentle On My Mind"). He's also devoted to the lore of Appalachia's hazy hill country that often inspired the old fiddle tunes. The music of "Blind Ed" Haley, for example, set toes tapping until the 1940s, and can still be found on CD. And John Hartford knows the story of Blind Ed's dad, Milt Haley—how he and another fiddle player, Green McCoy, were killed by a mob in 1889 because of a bitter dispute that could have grown into a mountain feud like the storied vendetta between the Hatfields and the McCoys. (No coincidence in the likeness of names of those McCoys and Green McCoy. He was, I'm told, first cousin once removed to Old Randolph "Randel" McCoy, leader of the clan.)

What happened to Green McCoy and Milt Haley is a cruel story, and John Hartford has puzzled over how much of it is true. After reading an article in this magazine on Smithsonian forensic digs (SMITHSONIAN, May 1996), he offered to finance a dig at the Haley-McCoy grave in the southwestern part of West Virginia, not far from Kentucky. That dig might prove or disprove the gruesome story of the killings. Hartford and a colleague wrote to renowned Smithsonian forensics expert Douglas Owsley, inviting him to excavate, and Owsley couldn't say no.

On a bright afternoon in early spring 1998, a van and an SUV bursting with tools and people finally discovered the village of Harts—barely

LILLIAN BRUMFIELD RAY (2); NELLY THOMPSON

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big enough to make it onto a West Virginia road map—and parked at the fire station beside Hartford's big concert tour bus. Hartford, a slim, thoughtful man in a cowboy shirt, greeted Owsley, youthfully fit from hard exercise in the field. Others came, too: "Rich" Richardson, field boss of Owsley's team, two expert diggers (in forensics, a lot of digging is done with sharp trowels the size of tablespoons), recorders and photographers. Local people ambled over—kindly folk who don't lock their doors or their pickups, and treat strangers with perfect courtesy. Hard to believe their recent ancestors once had it out—with Winchesters at 50 paces.

Brandon Kirk is one of them—related to most everyone involved in the trouble that seethed in these winding glens in the 1880s. Young Kirk had been working with Hartford to produce a book based on the taped memories (sometimes pretty shaky) of old folks whose parents and grandparents talked about the killings. As the group from the Smithsonian went to look over the grave site—a short drive up the creek, then a steep scramble to a small promontory—Kirk was swamped with questions, patient with answers. His account of the fate of Green McCoy and Milt Haley remains the best, and so, with a bow to him, here's pretty much what folks recalled of mayhem in the misty hills, just over a century ago.

Start with two families, prideful early settlers along Harts Creek, one named Dingess, the other Brumfield. Since their young folk intermarried, they were drawn together. Even old Paris Brumfield, head of his tribe, tried to get along with the Dingesses. Paris had served in, then deserted from, the Confederate Army. He'd been a logger and played a little politics, and he carried two six-shooters and might "shoot someone's ducks in the road" just for the hell of it. He'd killed a man, too. Didn't like him.

One man that Dingess patriarch Henderson Dingess didn't like was his own brother-in-law, Ben Adams, tall and mean as a snake. Mightily ambitious, Ben vowed he'd get rich in the timber business then flourishing along Harts Creek, but Paris Brumfield's oldest son, Al, set up a boom across the creek to snag his neighbors' logs. He charged maybe 10 cents to release one. This didn't sit well with folks, especially with Ben Adams, who swore Al was rustling his logs—sawing off Ben's brand and searing the butts with his own. Ben naturally took a shot at Al, but his bullet ricocheted off a metal button.

On the first day, Douglas Owsley and crew began excavating the grave.

One night, Ben decided to slip his logs past the boom in the dark. He set out with his wife in the lead—she was a Dingess, and Ben figured that if there was trouble, maybe her family wouldn't shoot at her. Wrong. The Brumfields and Dingesses got wind of Ben's plan, set up an ambush, levered their Winchesters and cut loose. Bullets flew. Didn't kill anyone, but tensions along Harts Creek twanged like the banjos that sang in the night.

Enter Milt (Thomas Milton) Haley, a rambling man and, when he wasn't "awful bad to drink," a grand fiddler. Tough father, too. They used to say that when Milt came home from work he'd tell his boys, "Right now we got to have a fight and get everything settled and we'll be all right." And when his baby son had a fever he dipped him in ice-cold water—"that's what he done, and it put him blind." That baby son grew up to be the famous fiddler "Blind Ed" Haley.

Milt Haley made friends with another music man, Green (William Greenville) McCoy. Green McCoy was married to Spicie Adkins, a banjo picker and dulcimer player. Paris Brumfield hated her dad, so of course Green had to hate Paris and the rest of the Brumfields.

McCoy and Haley made good music together. Their names were linked. So, at least as one version has it, when Ben Adams figured he just had to get back at Al Brumfield—by having him killed—he hired Brumfield's enemy Green McCoy and his friend Haley to do it.

On September 22, 1889, Al Brumfield and his beautiful wife, Hollena, had noontime dinner with her family, the Dingesses. Then they rode home, both on one horse, Hollena's young brother clopping along in the rear on another. The road hugged the creek, chuckling beside them on this serene Sunday afternoon. As the road veered away and headed to the mountain, the couple spotted two men ensconced behind rocks farther up the hill. Hunching forward as if to weather raindrops instead of bullets, they kicked up their horses. Rifles crashed and echoed through the hills. A bullet hit Al's arm. Another one plowed through lovely Hollena's left cheek. While her brother wrapped her wounded face with his shirt, Al rode for help, bullets singing past him.

Raging, the Brumfields and the Dingesses swarmed out to look for the snipers. So many folks hated Al for his log boom that it seemed anyone could have done it—until it was noticed that Haley and McCoy had skipped town. After a bit, they were found in Inez, Kentucky, and Al Brumfield led a posse across Tug

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Musician John Hartford, right, and local folklorist Brandon Kirk watch the dig that was inspired by their letter to Owsley.

Fork, which forms the boundary between the two states, and picked them up. Arms bound, they were driven "like a pair of mules in a plow line" back toward Harts.

The pair's best chance was rescue by Ben Adams, who had presumably hired them to do in Al Brumfield in the first place. So now Ben Adams recruited men to cut off the Brumfield posse and their captives at Harts Creek. Suspecting an ambush, Al Brumfield's brother headed to the creek on a white horse to scout. He cantered along in the dark, then heard a sound like a brushfire crackling. He suddenly knew it—the snapping of many guns being cocked. Spinning around, he rode for his life, a white ghost in the night, and tipped off the Brumfield posse.

The posse veered over a hill to the safety of a large Dingess cabin, and stashed Milt Haley and Green McCoy upstairs, bound and under guard. Downstairs jugs went around—corn liquor, apple brandy, "red whiskey." Some say Milt was fetched down to play, and the mob danced, bearded men stomping and whooping. Then they took Milt outside, gagged him and went back in to Green. "We hung Milt," they told him. "If you've got anything to say, you'd better say it." Breaking, McCoy admitted ambushing Al and Hollena, but said Haley had done the shooting.

Ready to kill, the mob moved the pair to another house, and threw them onto a bed. Some ladies, among them Brandon Kirk's great-great-grandmother, cooked a chicken dinner for their last meal. Now the story gets rough: memories of a scream, "You cut my leg!" And of Paris Brumfield "just as bloody as he could be where he had stabbed on them men." Finally, the two were shot—in the bed? At a table? Out in the yard? One Brumfield "put his toe at the hole and said 'I put a bullet right there.'" But there were many holes—and other damage: "They took a pole-ax and beat their brains out. The brains spattered up on the door. . . . " A local preacher organized a burial party and brought the corpses to the burial site. Brandon Kirk's great-grandfather helped with the grave.

So, 109 years later, Owsley's forensic crew expected to find tattered remains quickly. The excavation soon struck slabs of shale that had likely been thrown in to fill up what was clearly a burial site. John Hartford thought he might play tunes, serenading his long-dead fellow fiddlers. "If they like it," he explained, "maybe they'll slip out of the ground nice and easy."

Then again, maybe not. As the hole deepened, and the mound beside it grew, diggers approached Owsley with items in their spades. Is this a finger joint? A button? Owsley would look and feel—and toss it away. Not what he was after. If someone had handed him a gold nugget he'd have glanced and tossed.

Local people hiked up to watch, often to help dig. Some McCoys showed up. Some Haleys. An old-timer revealed that he had some Brumfield in him. That evening, John Hartford nestled a fiddle under his chin and played tunes Milt and Green would have played: "Brownlow's Dream," "Hell Up Coal Holler," others as old. Titles tend to shift from tune to tune, says Hartford. "Some tell a story. A favorite of mine is 'Old Jimmy Johnson Bring Your Jug Around the Hill; If You Can't Bring Your Jug Bring The Whole Damn Still.'"

On the second day, rain turned the dig into wet misery. As the spades got deeper, freshets flooded into the hole. By late afternoon, only Owsley, wet to the bone, was still at it. Doggedly he struck his spade into the shale, stared at its contents, and tossed it disgustedly on "Disappointment Hill." For once, he was licked. When rain continued the next day, his team gave up, refilled the grave and cleaned the site of all signs of activity. The deer, the occasional bear, were free to roam and sniff, and lick up tiny crumbs of hamburger.

As for Haley and McCoy, Owsley and Richardson suggest that decades of water, streaming through the grave, may have deteriorated the bones, washing away their traces. Alternating periods of wet and dry would have done the same, even more quickly. Artifacts like buttons and buckles were never there if the corpses weren't clothed. Bullets? Handcuffs? The answer is a shrug. Kirk says he and Hartford feel the remains are there—maybe deeper, or tucked in an undercut. There's no evidence of grave robbery.

The mystery fits the region. The old hills are part of nature's plan, and so are the leather-tough country people who live in their shadows. Just as nature floods out the green and fertile glens, and burns off dry timber with a lightning strike, so bad times come to the hill people. Hardship and frustration can fuse a brutal human explosion. Then, as in ravaged land, wounds heal and are blessedly forgotten. The dig for Milt Haley and Green McCoy followed all forensic rules, yet failed. But rules don't always hold up around here. Sometimes all you can do is shrug, and listen to a little mountain music.

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More than two-thirds of the 36 birds depicted—including the goose-like moa-nalo, front left—are extinct.

CHARLIE PHILLIPS

ENGLISH ARTIST JULIAN PINDAR HUME'S PRISTINE scene of a bird kingdom in third-century Maui looks as lush and inviting as Eden. But something is terribly wrong with the picture. The ibises—usually so long and elegant—here have short legs. The gooselike birds have lumpy piano legs like a Galápagos turtle, and seem to have a set of teeth. Clearly they are birds—after all, this group portrait of them hangs in the National Zoological Park's Bird House—but just as clearly, many of them can't fly. Their wings are at best vestigial.

We know that birds had the ability to fly as early as the Jurassic age. Wings were a great survival tool that let them forage and rise above their enemies. So why have these birds given up such an advantage?

Hume's painting is based on the scholarship of Smithsonian Institution avian paleontologists Storrs Olson and Helen James, and it turns out that for these particular birds at that particular time the loss of flight made a lot of evolutionary sense. It was "on purpose" that flightless avians retained into adulthood the features of young birds—big feet and stumpy wings. Their state of neoteny was an adaptation, say Olson and James, to an ecosystem in which there were no mammals or reptiles around ready to eat them. The Hawaiian archipelago was a complete ecosystem, but because it was without the usual lineup of predators and prey, herbivores and scavengers, some birds began taking over these niches themselves. Flightless rails foraged the dry forest floor like mammals, as likely to rob an egg from a ground-nesting bird as gobble up endemic snails. The owls, which did fly, used their unusually long legs to snatch other birds from the air. Among the analogues for mammal herbivores like sheep were the moa-nalos—a name coined by Olson and James to describe a generic assembly of large, flightless "gooselike ducks," 16-pounders who chomped abundant ferns, aided by tooth-like, horny projections on their bills.

There are other evolutionary theories, too. Some scientists believe that because of the steady blast of the trade winds, light, winged birds might have run a high risk of being blown off some of the small windswept islands that make up the northwest part of the archipelago. In that case the flightless ones might have given up wings because they

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Avian artist Julian Pindar Hume has recently begun working toward a doctorate in paleobiology.

could become "sails," and instead favored heavy legs and feet for ballast.

Still, some Hawaiian birds kept on flying, and maintained the physique that flight required. There was even a flighted top predator, the white-tailed sea eagle, which snagged baby moa-nalos and any other birds it could get its talons on. Unusual island crows wandered about, as ready to munch on fruit as rob a nest or scavenge leftovers. A bunch of pioneer finches—blown from some unknown continent to Hawaii between three million and six million years ago—adapted to "fill in" for absent songbird species in the customary continental landscape. Natural selection reshaped the beaks of pioneer finches in much the same way Darwin's famous finches' were in the Galápagos. There were "woodpeckers," "warblers," "parrots" and "honey creepers"—variations of 50-odd species that make the Galápagos finch tribe's bill adaptations seem run of the mill.

Today most of these birds—airborne and earthbound alike—are extinct. Olson and James say they would probably still be around today if Polynesians had not made their landfall on the islands some 16 centuries ago. The vulnerable flightless mega-ducks, geese and rails were the easiest to catch and so may have been the first to go extinct. Eventually three-quarters of the versatile finches disappeared, most dramatically because Polynesian kings feathered their robes of office so lavishly. That old terminator habitat destruction, set in motion by the farming methods of Polynesian and Europeans alike, also added to the death toll. So did the introduction of non-native species that competed for resources with, and sometimes preyed on, indigenous birds. The record of many of these birds remains only in a collection of thousands of bones painstakingly reconstructed by Olson and James, then given the appearance of life in artist Hume's portraits.

Hume is a self-taught artist who has been depicting birds most of his life. In 1988, he wrote the Smithsonian from his home in England to see if anyone could use the services of a painter of ancient birds. Not long after, he found himself en route to Hawaii to join Olson and James.

Besides the group "study" of early Maui pictured on page 38, Hume's individual re-creations include warring, flightless geese (the so-called giant Hawaiian geese) "leaning" into each other like Sumo wrestlers locked in battle, and a flightless ibis just as it stumbles to its death in a lava tube. His picture of a pioneer flight of ancestral finches being blown into the prehistoric northern coast of Molokai is matched with portraits of some of their flashy descendants armed with reshaped bills—curved for nectar seekers, straight and slender for insect pickers, massive for serious seed-crackers.

The bill shapes and their ecological "uses" are all faithfully based on the sleuthing of Olson and James. With their help, Hume chose "authentic" colors to paint the feathers, based on extrapolations from related birds' feathers housed in museum collections. At first this method worked well—at least no one could argue about it—until DNA studies complicated everything. The work of the National Zoo's chief geneticist, Rob Fleischer, and his former student Ellen Paxinos changed their visual concept of at least one "big fat" bird, Hume says. Originally, on the basis of fragmentary fossils, Olson and James had pegged the giant Hawaii goose as related to the emperor goose. Then Paxinos and Fleischer changed its familial place based on their DNA studies. The base pairs of the giant Hawaii goose's DNA indicated that it was a relative not of the emperor goose but of the Canada goose.

Hume had already completed his battle scene, dressing the giant Hawaii geese in plumage similar to that of the emperor goose, when he got the news. Not only did he have to change the plumage to make the goose look Canada-like; he also had to change the background of the painting. His scene was set in an open lava field, but Olson and James pointed out that the fossil geese were found in the montane forest belt. Says Hume, "I had to move the big fat thing up into the mountains and grow a forest around it." To get the vegetation "right" in his paintings, Hume regularly risked his neck climbing Hawaiian cliffs to look at remnant examples of Hawaii's ancient flora.

Paleontological fieldwork in Hawaii is hardly a day at the beach. In the 23 years they have been working in the Hawaiian Islands, the now husband-wife team of Olson and James has explored sand dunes, limestone sinkholes, lava tube caves and crater lake beds in their effort to illuminate Hawaii's splendid isolationist past. Out of this they have gleaned numerous bird genera and at least 50 extinct species new to science.

And there is more to uncover. Recently Olson and James have been hard at work at a cave-sinkhole system on Kauai, where they've found feathers and bird skulls so complete they seem to have been deposited just yesterday. Not surprisingly, Hume—now studying for a doctorate in paleobiology himself—has already been down, sketchbook and paints at the ready.

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THE URGE TO DISCOVER WHAT LIES BEYOND the next bend in the road is part of the national psyche. Just how Americans have satisfied that yearning—from horse-drawn camping wagons and 1920s house cars to 1960s hippie buses and today's mansions on wheels—is the subject of a new book out this month. *Home on the Road: The Motor Home in America,* by historian Roger White of the National Museum of American History, is published by the Smithsonian Institution Press.

Like the adventurous 1920s family above (their identity unknown), hundreds of middle- and upper-class city dwellers of the time turned bus or truck chassis into one-of-a-kind house cars. In portable parlors with built-in kitchens and bedrooms, they left the city to explore in relative comfort the American wilderness. About that time, the Renner family of Des Moines, Iowa, went west in their house car built on a Model T truck chassis. Recalled Ralph Renner, "In Yellowstone going down from the highest peak, Dad got the gear in neutral and with no brakes ran into the mountain on the right side to stop." The car flipped over. No one was injured, but an axle was bent. A blacksmith, working with a road gang, fixed it. Other motorists rolled the car back over, and the family was back on tour. "A trip in a house car was always a mixture of challenges and pleasures," writes White. Out of a fad an industry grew, he adds, "as each generation discovered the pleasures of living on the American roadside." —*Beth Py-Lieberman*

NATIONAL GEOGRAPHIC SOCIETY

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SMITHSONIAN HIGHLIGHTS

National Design Triennial

COOPER-HEWITT, NATIONAL DESIGN MUSEUM

Since 1997, when Broadway's *Lion King* opened to critical acclaim, its director and costume designer, Julie Taymor, has thrilled audiences with her seemingly simplistic costuming devices. The mask at right, co-designed by Taymor and Michael Curry, is a prototype for the Lion King "Mufasa." It is sculpted by Taymor like a classical headdress; and it moves above the face of the actor thanks to Curry's mechanical design. The mask is one of more than 300 objects chosen for the first National Design Triennial, opening March 7 in New York City at the Cooper-Hewitt, National Design Museum. The Cooper-Hewitt, the nation's only museum that is exclusively devoted to design, will present a critical overview every three years of leading developments in American architecture and design. When Taymor was creating the mask, she knew she needed to craft something that represented an animal but that could also convey human expression. The work is honored for its visual storytelling and a design that heightens drama and spectacle. The Triennial exhibition features 82 other designers in architecture, urban design, landscape architecture, interior design, product design, theater design, graphic design and new media. The exhibition will be on view through August 6.

Renovations Continue

ART MUSEUMS AND ANACOSTIA GALLERY CLOSED

The National Museum of American Art and the National Portrait Gallery will remain closed for the next three years. The Anacostia Museum gallery will reopen in the spring of 2001.

SMITHSONIAN Website

WWW.SMITHSONIANMAG.SI.EDU

Visit the magazine's homepage to see more pictures of ways Americans have crafted mobile homes, and to purchase your own copy of Roger White's new book, *Home on the Road* (p. 42). Click on "Events" to go to the on-line calendar, which is designed so that visitors can view on-line versions of Smithsonian exhibitions, as well as the Websites of all the museums.

Exhibitions and Events

SMITHSONIAN ASSOCIATES

The 34th Annual Smithsonian Kite Festival: "A Century of Flight: Looking Ahead" (March 25, 10 A.M.; rain date, March 26) Contestants must enter handmade kites capable of flying at a minimum altitude of 100 feet for at least one minute. Participants meet on the west side of the Washington Monument.

NATIONAL MUSEUM OF AFRICAN ART

A Concrete Vision: Oshogbo Art in the 1960s (through October 22) Works by 11 artists in a major 1960s renaissance that developed in the western Nigerian town of Oshogbo. The centerpiece is four openwork concrete screens by Adebisi Akanji.

The Artistry of African Currency (March 12 through July 23) Objects used across Africa to facilitate trade and measure wealth, including copper and iron implements, wands, bracelets and anklets.

INTERNATIONAL GALLERY S. DILLON RIPLEY CENTER

PIANO 300: Celebrating Three Centuries of People and Pianos (March 9 through March 4, 2001) Studies the variety of piano designs and the designers dating to the time the piano first appeared, around 1700 (p. 60).

ARTS AND INDUSTRIES BUILDING

The Artistry of Orchids (through March 26) Hundreds of orchids, from the collections of the Smithsonian's Horticulture Services Division and the U.S. Botanic Garden, are cleverly presented in specially designed gardens.

NATIONAL MUSEUM OF AMERICAN HISTORY

March Madness for the Mind (March 9 10 A.M. to 5 P.M.) The Lemelson Center for the Study of Invention and Inno-

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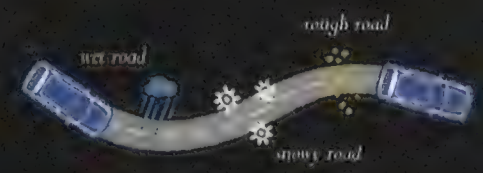

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vation presents a daylong program of cutting-edge inventions by student scientists, engineers and entrepreneurs from colleges around the nation. Teams will demonstrate prototypes of their high-tech inventions on the museum's first floor.

NATIONAL MUSEUM OF NATURAL HISTORY

African Voices A new permanent exhibition examines the diversity, dynamism and global influence of Africa's peoples.

NATIONAL AIR AND SPACE MUSEUM

R. G. Smith: The "Old Master" of the Sky (March 24 through September 4) Among the artists who have recorded the history of flight on canvas, Robert Grant "R.G." Smith is regarded by many as the American master. Twenty-five works will be on view.

Women in Flight: A Scavenger Hunt In celebration of Women's History Month, test your knowledge of women's aviation history by going on a museum-wide hunt for objects. Pick up activity sheets at the Information Desk in the South Lobby.

HIRSHHORN MUSEUM AND SCULPTURE GARDEN

Robert Gober: Sculpture and Drawing (through April 23) Gober's altered images of sinks, drains, chairs and twigs explore themes of childhood, memory, loss and sexuality.

Directions—Leonardo Drew (March 16 through June 25) A new work created on-site by this artist best known for his large, wall-mounted sculptures made from distressed materials, such as charred wood and corroded steel.

NATIONAL POSTAL MUSEUM

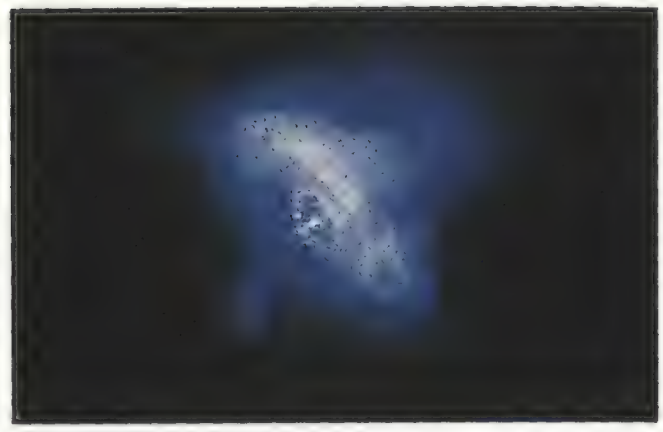
Missing You: Last Letters from World War II (through April 30) Letters sent home before the writers were killed in action.

RENWICK GALLERY, NATIONAL MUSEUM OF AMERICAN ART

The Art of John Cederquist: Reality of Illusion (March 31 through August 20) Features 14 trompe l'oeil works from this California craftsman, including *Stroke of Genius* (left), a playful, multidimensional image.

The Renwick Invitational: Five Women in Craft (March 31 through August 20) Works by a ceramicist, a fiber artist, a basket maker, a jewelry designer and a metalsmith.

John Cederquist's playful trompe l'oeil works are on view at the Renwick Gallery.



A supernova remnant is glimpsed by the Chandra X-ray Observatory, run by the SAO.

ARTHUR M. SACKLER GALLERY

Antoin Sevruguin and the Persian Image (through May 28) Sevruguin's evocative photographs record Iran's culture.

Imaging the Word: Selections of Calligraphy from the Islamic World (through May 7) Some 30 works from the museum's collection that show the variety of calligraphic styles.

FREER GALLERY OF ART

The Dragon's Moan (through October 1) Works celebrating the *qin*, or zither.

GEORGE GUSTAV HEYE CENTER [NEW YORK CITY]

Creation's Journey: Masterworks of Native American Identity and Belief Rare objects selected for their historical significance.

SMITHSONIAN ASTROPHYSICAL OBSERVATORY

Follow the flight path of and view images from the Chandra X-ray Observatory at www.chandra.harvard.edu.

Planning a Smithsonian Visit?

THE CASTLE—INFORMATION CENTER

Begin your visit at the Associates' Reception Desk in the Castle's Smithsonian Information Center—open 9 A.M.-4 P.M. daily. Special materials and information on exhibitions, activities and dining are available there. Learn what's new at the Smithsonian and about other area attractions—with brochures, videos, touch screens, electronic maps and more. Smithsonian museums are generally open 10 A.M.-5:30 P.M. daily, except December 25. To receive a free Associates' planning packet, write to Smithsonian Information, Smithsonian Institution, Washington, D.C. 20560-0010, or send your request via e-mail to info@info.si.edu, or call 202-357-2700 (voice) or 202-357-1729 (TTY), 9 A.M.-5 P.M., Monday-Friday; 10 A.M.-4 P.M., Saturday-Sunday. Note: Parking on the Mall is limited; Metrorail is convenient to most museums.

TOP: SAO/SPACE IMAGES; BOTTOM: NATIONAL MUSEUM OF AMERICAN ART, SI

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SOUTH AFRICA

A world in one country

a second wind

BY JAMES CHILES ❦ PHOTOGRAPHS BY LAYNE KENNEDY

Steady Midwestern winds drive more than 600 immense turbines along Buffalo Ridge, including those found in Minnesota's Drammen Township (above).

AN UNLIKELY ALLIANCE OF MIDWESTERNERS SAYS IT IS TIME TO TAKE ANOTHER LOOK AT GENERATING ELECTRICITY THROUGH WIND POWER

IT'S 7:30 ON A SATURDAY MORNING IN LATE June, and the workday is well under way. The overcast is so thick and hangs so low at this western Minnesota construction site that half the time the tip of the crane boom is lost in the clouds, leaving the big steel hook to hang mysteriously out of the mist like a helping hand from the heavens. A wind-borne drizzle out of the west has made me take shelter behind a trailer. Technician Gary Otkin comes over to pick up a wooden pallet. Water drips from his hard hat and blue rain gear. Otkin is a windsmith, and his task this morning is to help put together the hub and blades of a new electricity-generating wind turbine.

Otkin hefts the hardwood pallet. "This sucks," he says, referring to the rain on his head and the mud on his boots. "By the end of the day we'll all want to kill each other." But there's no time for mayhem. This smallish crew of Danish and American workers has only 11 days to finish all the wind turbines on this project so that developer Northern Alternative Energy can qualify for a federal tax credit before the law expires at the end of the month.

While the deadline seems real enough to touch, at the moment everything else about this new business of wind farming is dim and shrouded. From where I'm standing in the low clouds it's impossible to say how many turbines Otkin and the riggers have topped out and how many more towers lie in giant unassembled pieces on the prairie.

But a few hours later the clouds lift enough to reveal what some people think will be a big part of America's energy future. The dozen completed machines at this wind farm are only a few among many. From this spot, I count over a hundred white wind towers standing in widely spaced rows, each more than 200 feet high and looming over hills that are green with corn, alfalfa and soybean crops. The farthest of the wind

GROVE

towers drop out of sight over the southeastern horizon.

"America the Beautiful" needs a verse referring to our nation's good luck with energy. States such as Texas and Oklahoma have long been known for their rich oilfields; Wyoming and some others have coalfields big enough to keep America's boilers and furnaces hot for hundreds of years. Now the Great Plains states are attracting international attention for their windfields. Could this be the "Saudi Arabia of wind"?

Under the guidance of Danish contractors (above), workers can erect a wind turbine (left) in one day.

According to experts, one of the best spots to test the proposition is here on Buffalo Ridge, far from California's better-known wind farms: Tehachapi, Altamont Pass and San Gorgonio Pass. During the 1980s, generous state and federal tax credits helped make the California wind farms possible. Unlike those on Buffalo Ridge, the California farms sit in mountain passes. While California's rugged topography is good at funneling the wind, it also puts severe constraints on the acreage available for turbines.

Already the wind farms along Buffalo Ridge span more than 100 miles between Storm Lake, Iowa, and Lake Benton, Minnesota. More empty ridgeline is available between those farms and into South Dakota. The ridge is a gift from the glaciers, a broad moraine of gravel, clay and boulders dumped diagonally across the upper Midwest during the last ice age. Though the rise is subtle and often barely noticeable to the untrained eye, the ridge climbs to an impressive altitude of 2,000 feet. Like an airplane wing, the bulge forces air to speed up while passing over.

During the past five years, the biggest wind farms in the nation have all been going up along Buffalo Ridge. "Buffalo Ridge is the largest current wind development area in the United States," says Michael Brower, one of the authors of a 1993 report on Midwest wind power that set off the boom here. At more than 600 big towers and counting, this area's wind-power production is still less than that of California's two biggest wind-power regions, but it is on course to leap ahead in several years. Buffalo Ridge could see many thousands more turbines if the country is serious about Energy Secretary Bill Richardson's new goal of pumping wind power's production of electricity up 30-fold over the next 20 years. "We're vitally interested in what happens with the turbines in Minnesota," reports Dan Reicher, Assistant Secretary for Energy Efficiency and Renewable Energy. "They're the first large-scale test of the wind resource in the Upper Midwest."

If Buffalo Ridge works out, there's more to come. Beyond the northwestern tip of the ridge lies North Dakota, a mother lode of wind that appears to hold more than a third of the nation's potential wind power by virtue of its climate and topography. "Developers are looking hard at North Dakota," says Brower, "but the political and regulatory conditions are not right yet."

Proof that conditions are already right in Minnesota is visible from the porch of Jack Delaney's yellow, single-story farmhouse. He lives in the heart of the 107-megawatt wind farm called Lake Benton I in Drammen Township. To the south I count at least 15 large turbines, arrayed in two lines. Each turbine can put out enough electricity to supply a good-sized neighborhood.

Just west of his house are two empty white farmhouses once used by the Delaney family. The 80-year-old Jack Delaney grew up here. "This is the second-highest spot on Buffalo Ridge," he says, gesturing beyond the trees that serve as a windbreak. "You never like the wind when it's high. But you get used to it." According to anemometers, this stretch of Buffalo Ridge has a year-round average windspeed of 18 miles per hour.

He agrees to drive me around the muddy farm roads in his pickup. Stopping near one of the four American-built Enron turbines planted on his family's land, he has me roll down my window to listen to the low whooshing noise of the three big blades, each 76 feet long. There is nary a squeak out of the machinery—none of the piercing scrape common to so many of the old water-pumping windmills. "Hear that? It's no different than a tractor," he says. "You get so you don't notice."

In good times, farmers might not agree to have wind turbines on their land. Though occupying only a small percentage of the land, the pad for each turbine and the connecting roads can interfere with high-speed crop tending. If the turbines need repair during the growing season, the cranes and trucks coming out for the job sometimes flatten the crops. But these are not good times, with crops such as soybeans selling for far less than anticipated.

Delaney says other farmers who got in on the first of the wind-development rush received the best deals on their land rights, earning a onetime bonus of $450 for every acre. By the time developers reached his property they had dropped their offer to a single-digit percentage out of yearly revenues, but he agreed even so. "I figured that if we

could get in a position where we're not so dependent on that foreign oil, I was willing to sign up any time for pollution-free energy," he says, speaking in a soft voice that reminds me vividly of old movies with Lionel Barrymore. "They had very few hard sells around here."

Driving back, he points out more abandoned farmsteads. The farm he grew up on was 240 acres in size and powered by horses; now his family runs six times that many acres. Bigger farms don't necessarily mean a better life now. "We're one of the lowest-income counties in Minnesota," Delaney says. "Young people leave and they don't come back, and the age of the average farmer is getting awfully high."

Which is why wind power has lifted spirits in the nearby city of Lake Benton, says Gary Serie, hardware store owner and chairman of the local chamber of commerce. Enron Wind Corporation has erected so many turbines in the vicinity that it has built a maintenance center here. "That's about two dozen full-time jobs in Lake Benton, all at head-of-household wages," he tells me over a milkshake at The Ridge, a diner in Lake Benton owned by the Delaney family. That's no small matter in a community of 700, particularly one that has been desperately short of nonfarming jobs that offer good wages for young adults.

When I ask the local people just how the wind farms blew into Lake Benton, they speak of a man named Jim Nichols. I find him at a construction site near the city park, where he is nailing together the wooden frame of a building that will become a home for senior citizens. Twenty years ago, a tragic car accident near Lake Benton killed his first wife and severely injured two of his children. Nichols resigned his seat in the state senate and returned to his farm in Verdi Township to spend more time with his family.

Top: Farmer Jack Delaney welcomed wind turbines onto his Minnesota farm. Above: Roger Kas (right, with his father, William) has supplemented the family farm income by managing a crew that erects turbines.

But he didn't put away his political tools. Nichols accepted a post later as state commissioner of agriculture and has gone back since to tilt for windmills. Now he's head of the county's economic development commission.

The jobsite is hot, bright and humid; Nichols looks seriously overheated. He invites me into his pickup, starts it up, turns on the air-conditioning and talks politics. In 1993, he explains, a report issued by the Union of Concerned Scientists (UCS), a pro-renewables research group, caught his attention. After looking at many years' worth of windspeed data at weather stations, the authors concluded that the Great Plains had tremendous potential for wind power. Buffalo Ridge was even singled out for special mention. After reading the report, Nichols had an idea. He knew that the Northern States Power Company (NSP), owner of the Prairie Island nuclear power plant in southern Minnesota, was in desperate need of legislative permission to store spent radioactive fuel inside massive containers called "dry casks." Nichols set out to swap the casks for wind power.

Working with his second wife, Joyce, a former staffer at the state senate, he lined up support among his old colleagues at the statehouse for legislation that would require NSP to earn those casks by committing to 1,000 megawatts

Top: Jim Nichols (left, with Lake Benton mayor Marlin Thompson) organized a radioactive-waste-for-windpower swap with Northern States Power Company. Above: Developer Dan Juhl adjusts an anemometer atop his 206-foot-tall turbine.

of wind power, which is only a fraction of what the report concluded that southwest Minnesota could produce. That's about the output of a single nuclear power plant. This wind-power coalition also joined up with the state's environmental groups, which had been gathering forces to block nuclear waste storage at Prairie Island.

"We were an unholy alliance," Nichols says now. "Wind power wouldn't have passed without the environmentalists' support. NSP had 42 lobbyists at work against it." During the session Nichols swept up three busloads of volunteers from Lake Benton, including the high school social studies class, and turned them loose in the capitol with copies of the UCS report. In the end, the legislature told NSP to come up with 425 megawatts of wind power by the end of 2002.

The fruits of that labor stand around the city of Lake Benton now. From the building site where Nichols has been working, the upper structures of six turbines loom over a bluff to the west. Their huge black rotors wave above the treeline, as if saluting the local people for their support. "To NSP's credit, it wanted a class act," Nichols says, referring to the aesthetics of Minnesota's new turbines. Unlike many of the California models, which stand on steel latticework frames, the turbines around here are all supported on sleek white tubular towers.

NSP will need power from a couple hundred more wind turbines to meet the goal set in 1994. Rather than buying the machines itself, it is contracting to buy power from wind farms that other companies develop. Eleven of those megawatts will come from the Northern Alternative Energy farm near Lake Shaokatan, and I drop in to see how it's going.

The first thing I realize about the turbine business is that things happen fast. About 7 A.M., pickup trucks begin arriving at pod number two, located on the crown of a hill planted with soybeans. Today the men will erect this turbine completely. Already in place is a concrete foundation and one upright tower section. The giant steel tube looks like the base of a water tower. They need to stack two more tower tube sections, then lift and mount the electrical generator and control and gear box almost 200 feet up. When they slip a rotor onto the generator, it will be ready to harvest the wind.

The crew begins by assembling the rotor on the ground, a process that involves bolting three rotor blades to a central hub. While he's waiting for a crane to bring over one of the two-ton blades for attachment, Danish construction supervisor Jens Jensen comes over to talk. He wears black shorts and a white company shirt and is tanned by the constant outdoor work.

Jensen is in this country on a three-month visa, which expires in July. After a two-week interlude in Denmark he will be off again, to Morocco, for another wind-farm job. Today's wind industry is very much international. During the California wind rush the United States led the world in its capacity to generate wind power. Now Germany leads the United States. Denmark runs a strong third and is putting wind turbines atop ocean platforms.

Its storage pools filling up with spent radioactive fuel, the Prairie Island nuclear power plant won the right to store waste outside the facility by promising to buy wind-generated electricity.

The crane is now ready to bring over the blade, and Jensen sets the straps. The blade is made mostly of wood and fiberglass. Although able to handle gusty winds without cracking, it is easily damaged by careless handling on the ground. By midday the rotor is assembled and ready for hoisting. A large red crane swivels its 240-foot boom over for the lift. Raising and attaching the mammoth rotor is the trickiest job of the day, because there's always a breeze at the top of the tower, and workers on the ground have to hang onto the blades, using long ropes, to keep the rotor from crashing into the tower. By dinnertime the turbine stands complete. Only Jensen remains up in the generator housing, finishing the day's work. This turbine will be on the grid and selling electricity to NSP shortly.

Harnessing wind power in the Midwest is not just the province of utilities and large companies. According to developer Dan Juhl, Minnesota farmers could do better if they built their own clusters of two or three medium-sized turbines. That's because the state of Minnesota offers special incentives to wind farms with a capacity under two megawatts. But diversifying into wind isn't easy for farmers, who have trouble getting low-cost loans and don't have experience with this new world.

Currently, Juhl is leasing land from a small farmer for his own turbines. I meet him down on the wind farm one afternoon and ride along as he steers his station wagon down the bumpy dirt lane connecting the pads. He pulls up at one, unlocks the steel door to the tower and punches buttons on the computer inside. Born in the Red River Valley, which divides Minnesota from the Dakotas, Juhl has worked in the wind-power business now for 25 years, including time in California during the boom there. The first machines he sold were 25 kilowatts in capacity; the Danish machines here are 600 kilowatts.

Although the computerized controls at the wind farm will telephone his home 50 miles away in Cottonwood and alert him to any problems, Juhl drives here almost daily to check on his $10-million-plus investment. Sometimes while visiting his towers he takes their "pulse" the old-fashioned way, placing his ear against the steel wall at the base of each tower.

His stand of 17 turbines can make $13,000 worth of power in one day if the wind stays at peak speed. Assuming that Juhl's turbines turn out one-third of their maximum rated capacity, I figure that every year they will produce as much electricity as that represented by a mile-long railroad train filled with coal. It sounds good, but it didn't come easily. "This project took six years to build," he recalls. "I filled out all the forms myself, because I didn't have the money for high-priced attorneys."

One reason Juhl's wind farm earns enough to pay the bank loan and make a profit is because the government is helping out. Juhl receives a partial discount off property taxes for his medium-sized wind farm. His turbines will also earn Juhl a federal tax credit for the next ten years. Revenue adds up to about 5½ cents per kilowatt hour, including the money that NSP pays him to meet its wind-power mandate.

Dodge

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Dan Juhl's wind farm sits on 320 acres of leased farmland in southwestern Minnesota.

Northern States Power would rather not be in this position, according to Audrey Zibelman of NSP's Division of Energy Marketing and Fuel Resources. "NSP is the only power company in Minnesota with a mandate, and possibly the most substantial mandate in the United States relative to the size of the company. Our preference is to let the market work. . . . If there is a regulatory obligation, it needs to be imposed on everybody." Environmentalists have been barking up that particular tree for several years with a concept they call the renewables portfolio standard. They want a federal law saying that every U.S. power producer either has to produce a minimum percentage of its power from renewable energy, or else has to buy credits from a producer that has gone past the minimum amount. This same credit-trading approach has helped bring down sulfur dioxide emissions from power plants, at a lower cost than expected.

"Obviously we are all concerned about global warming," Zibelman says. "But at the same time electricity is an essential service, and it's extremely important that we keep it cost-effective and reliable." During the 1980s, the California turbines were notoriously unreliable, breaking down frequently. The new generation of turbines, however, combine sophisticated computer technology and mechanical improvements to make malfunctions rare. But on days with little wind, even the most efficient turbine cannot generate much energy—and that's what concerns utilities, which must supply a constant source of electricity to consumers. So a pivotal question remains whether the wind itself will be constant enough for wind energy to provide more than a percent or two of America's electricity.

Activists such as Jim Nichols believe that the future isn't so much predicted as persuaded. He invites me into the living room of his Colonial-style farmhouse on Buffalo Ridge to explain another solution. He turns on a big fan and sits on the floor behind a pile of maps, reports and memos. He deals them out across the floor: maps here, article clippings over there and reports at the foot of the coffee table. He shoos his dog away and gets down to business. Nichols and others are proposing a plan that many traditional wind-power advocates might find ironic. It calls for a big, coal-powered generating station to be built in the Powder River Basin of Wyoming. They figure to ship the juice via a new high-voltage line due east to Chicago, city not only of the broad shoulders but lately of summertime electricity brownouts. Power from wind turbines would plug into the new transmission lines along the way. Steam, he says, will cover for the doldrums of wind power.

The work of the prairie-power populists has begun to bear fruit. In 1999 Minnesota's Public Utilities Commission ordered NSP to add another 400 megawatts of wind-power contracts on top of the original 425-megawatt requirement by ruling that wind power is reasonably priced after allowing for environmental damage from fossil fuels and the possibility that energy prices might climb. When NSP balked, Nichols summoned the troops and paid a visit to the new Minnesota governor, Jesse Ventura. A deal is a deal, said the former wrestler, and the requirement stands.

I end my sweep of Buffalo Ridge on a bluff overlooking the town of Chandler. Dozens of ordinary Minnesotans have come here today to visit three new wind turbines. They subsidize the machines by voluntarily paying a few dollars extra per month on their utility bills, through "green pricing" programs offered by their electric cooperatives. One who gladly pays extra is Adelbert Mueller of Springfield, Minnesota, a farmer who raises row crops for a living.

I join Mueller and we lean back to admire the sweep of the big white blades. Cities have their cultural attractions, he tells me, but these big machines, working out in the open for all to see, count as culture, too. "This," he says, "is something we can be proud of."

James Chiles, an analyst at Minnesota's pollution control agency, has written on space traffic and the Black Rock Desert. Layne Kennedy has photographed firefighters, oil roughnecks and the sport of curling.

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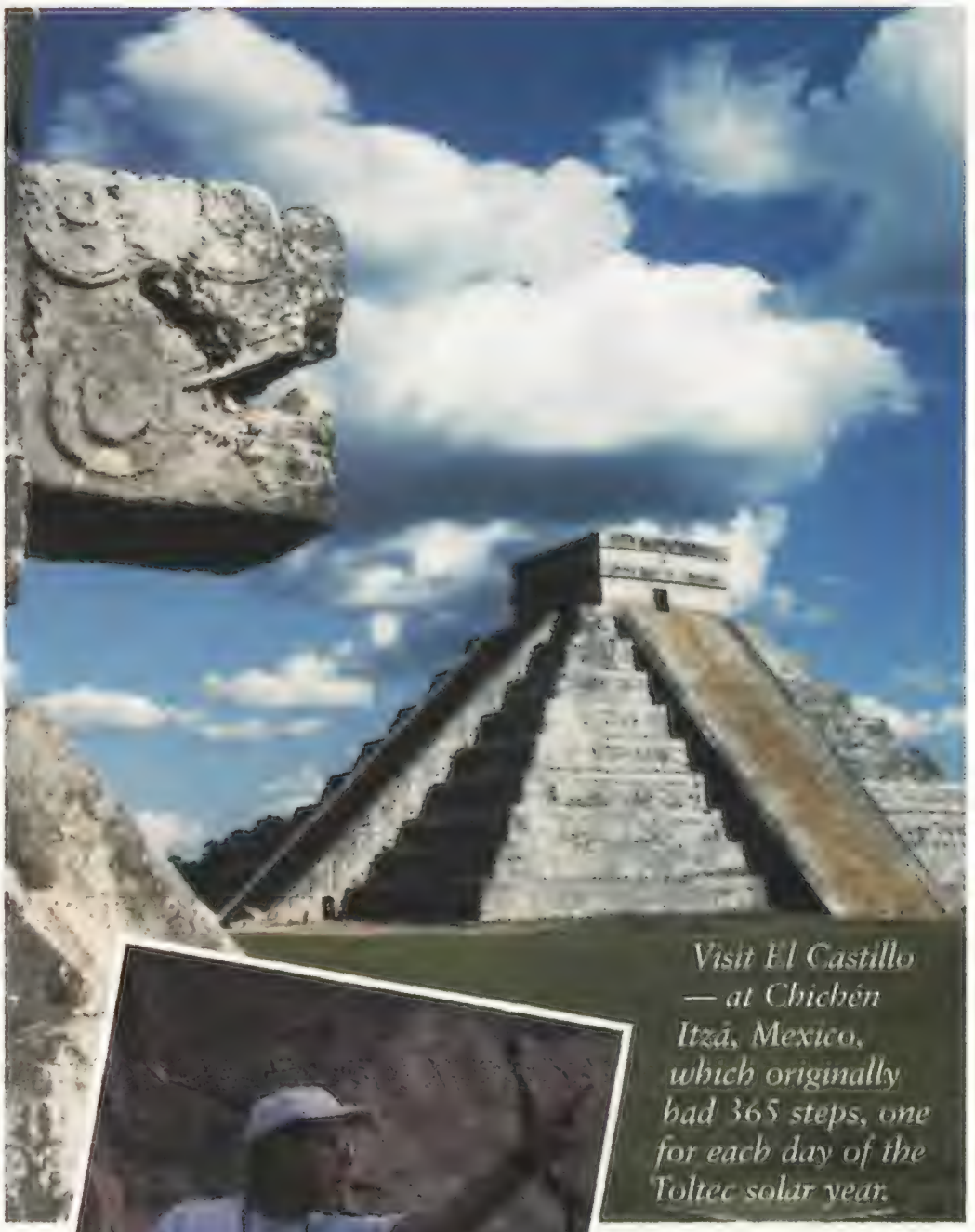

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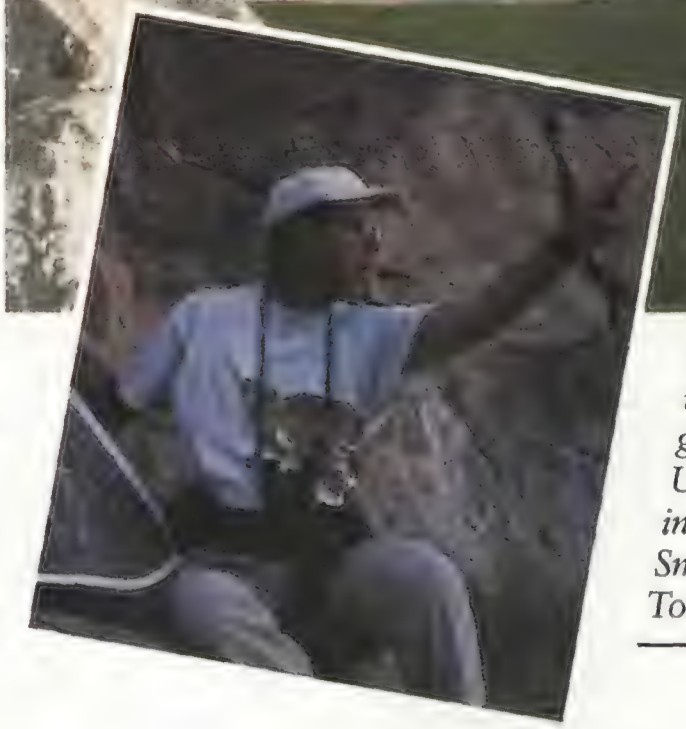
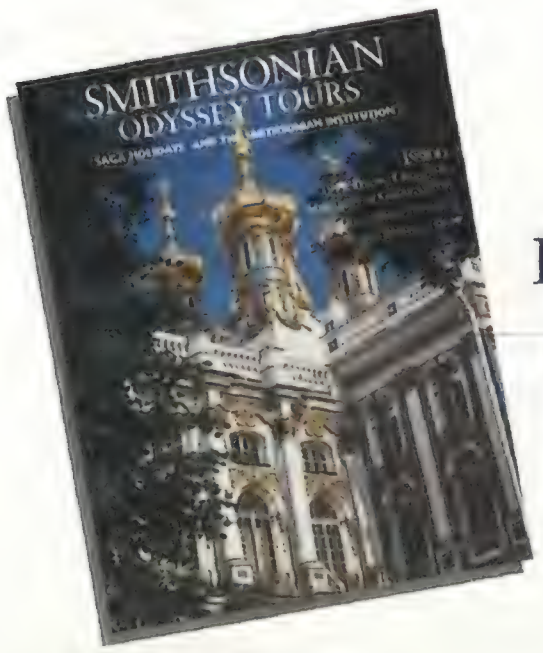


Inset: Kirt Kempter, who holds a Ph.D. in geology from the University of Texas in Austin, is a popular Smithsonian Odyssey Tours study leader.



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In praise of pianos...

PHOTOGRAPHS BY ROBERT LAUTMAN

IT'S IMPOSSIBLE TO IMAGINE LIFE WITHOUT THE piano. The automobile, the computer and the pizza, maybe, but not the pianoforte. Since its invention in Italy around 1700 by Bartolomeo Cristofori, a keeper of musical instruments for the Medici, it has become indispensable to our survival as a civilized people. What else, after all, has enriched society in so many different ways? It's not only a versatile musical instrument but also a striking work of decorative art, a handsome piece of furniture, a complex product that generated a worldwide industry, a status symbol, a prop for Presidents (Harry Truman) and performers (Liberace), a muse for classical composers and Tin Pan Alley songwriters alike and, not to be overlooked, a constant reminder for millions of fledgling pianists that there is more to life than pleasure—namely, practicing.

Over the years, the piano's impact has been as impressive as its size. It has been called "the single great factor in the development of musical art and the dissemination of musical knowledge." During the mid-1800s, it was the embodiment of Victorian attitudes toward music. In the early 1900s, it became a symbol of domestic bliss in the middle-class American home, where "Give us a tune, Sis," was an oft-heard request. Today it continues to command esteem among players and nonplayers all over the world. Everybody who enjoys music (and who doesn't?) loves the piano.

Elaborating on that theme, the National Museum of American History opens a fascinating exhibition on March 9, "PIANO 300: Celebrating Three Centuries of People and Pianos." The show features some two dozen historic pianos, including one by Cristofori and the rectangular 1850 Chickering shown above (together with its ornamented iron frame and strings, opposite), plus the five other beautiful instruments depicted on the following spread. The exhibition will run through March 4, 2001, at the Smithsonian International Gallery. — *Jim Doherty*

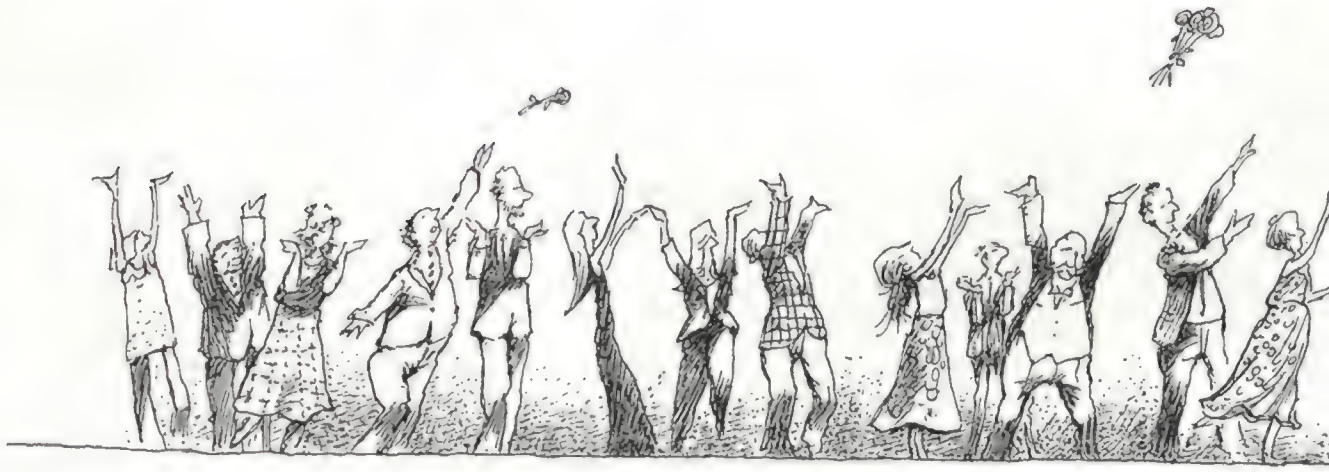
The 1794 grand by John Broadwood & Son of London (right) had 5½ octaves; most pianos then had only 5. One of the first small uprights (above) was produced in 1801 in Philadelphia by John Isaac Hawkins. An 1830s piano (below, top view), also made in Philadelphia, featured a one-piece metal-frame invention by Alpheus Babcock.

For the young lady of the 19th century who had everything, an ingenious side table (above, left) turned into a sewing cabinet (center) or a piano (right). The Art-Deco Steinway (below) was displayed in the U.S. pavilion at the 1939 World's Fair in New York.

TOP: ERIC LONG, SI (3); P. 62 TOP LEFT:NATIONAL MUSEUM OF AMERICAN HISTORY, SI

. . . and the artists who play them

BY RUDOLPH CHELMINSKI



ILLUSTRATIONS BY WILLIAM BRAMHALL

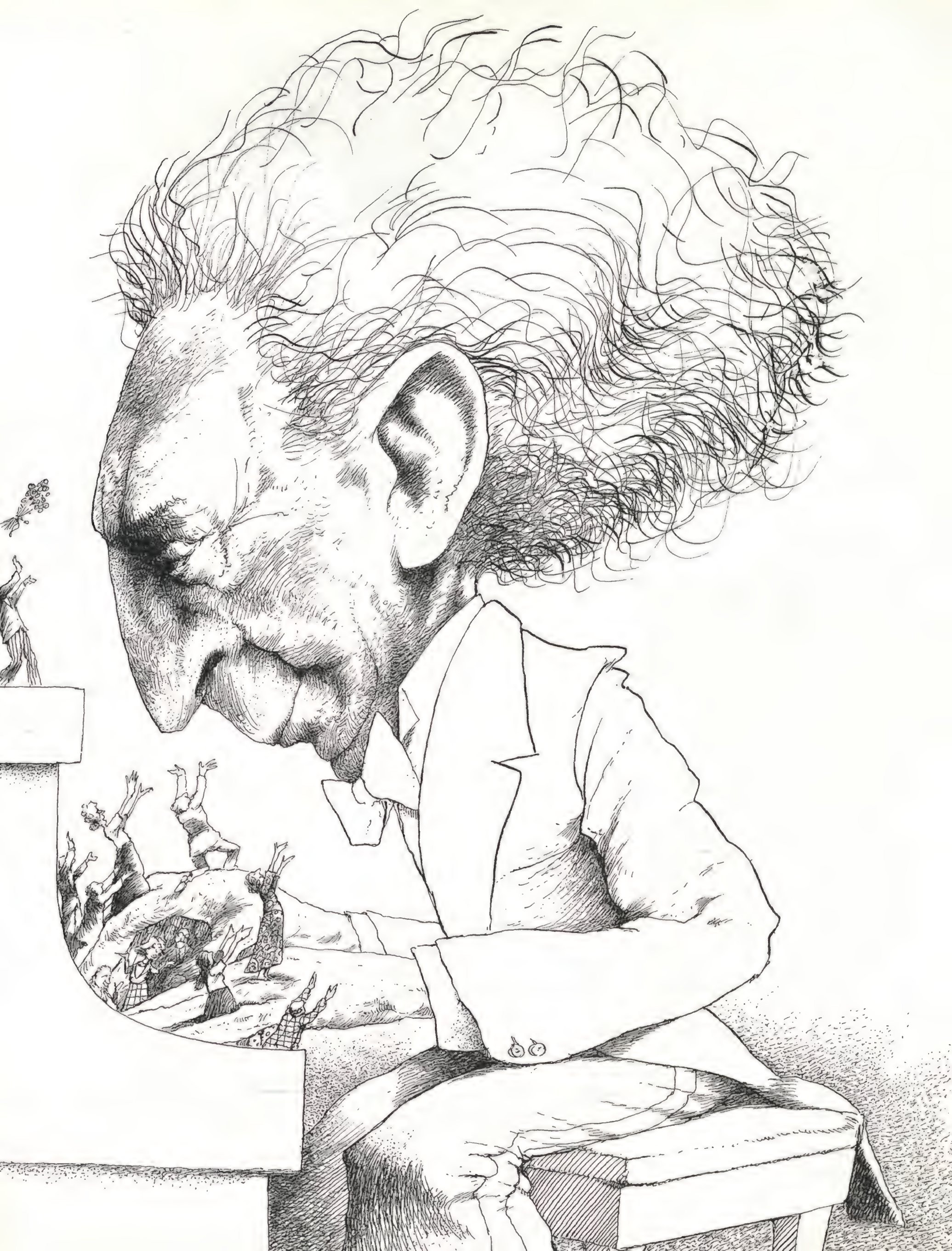
IN MAY 1975, ARTHUR RUBINSTEIN, at 88 still one of the world's top concert pianists, returned for the last time to his birthplace, the grimy Polish industrial city of Lodz, southwest of Warsaw. As luck had it, I was his gopher on that trip, carrying his bags and running his errands. There was to be only a single performance in Lodz, so not a seat or an inch of standing room was free in the Grand Theater as he launched into a typically demanding concerto program: Chopin's Second and Beethoven's "Emperor." No sooner had the last thunderous notes sounded than the stage was flooded with a sea of carnations in Poland's red and white national colors. Standing, the audience cheered itself hoarse, the orchestra rose to applaud and, up in the balcony, a chorus of youthful admirers chanted the traditional song "Sto Lat"—may he live a hundred years. Walking to the front of the stage, dabbing his eyes, the elderly concert pianist smiled, bowed and repeatedly lifted his hands from his heart in an embracing gesture toward the public.

They wouldn't let him go. Encore upon encore followed—I can't even remember how many today, so overpowering was the wave of gratitude and love that washed over him. But it wasn't finished, not just yet. The old pro knew very well what they wanted, and he was making them wait. Finally, he held up his arms to make an announcement.

"I have been asked," he said with angelically false innocence, "to play Chopin's 'Polonaise.'" Pandemonium. It could be only one, of course, the "Heroic," the A-flat Polonaise that makes every Pole's heart swell. Noble of visage, brilliantly framed by his signature aureole of white hair, Rubinstein returned to the keyboard, raised those powerful, gnarled hands, and finished off the concert playing what he always played best—the audience.

As he had repeatedly done throughout his long career, the old maestro had his listeners wound around his little finger, demonstrating once again the power of the mysterious bond that ties a great concert pianist to his public. It is one of the most intriguing aspects of the classical music scene, this bond. No rules seem to apply, no formula can make it happen or training develop it, but when the rapport is there it is very much like a love affair. Franz Liszt, granddaddy of the profession, drove his audiences to such fits of hysteria that ladies would hurl their jewels up

The pianist Arthur Rubinstein used his immense talent and dazzling charisma to work audiences into a frenzy.

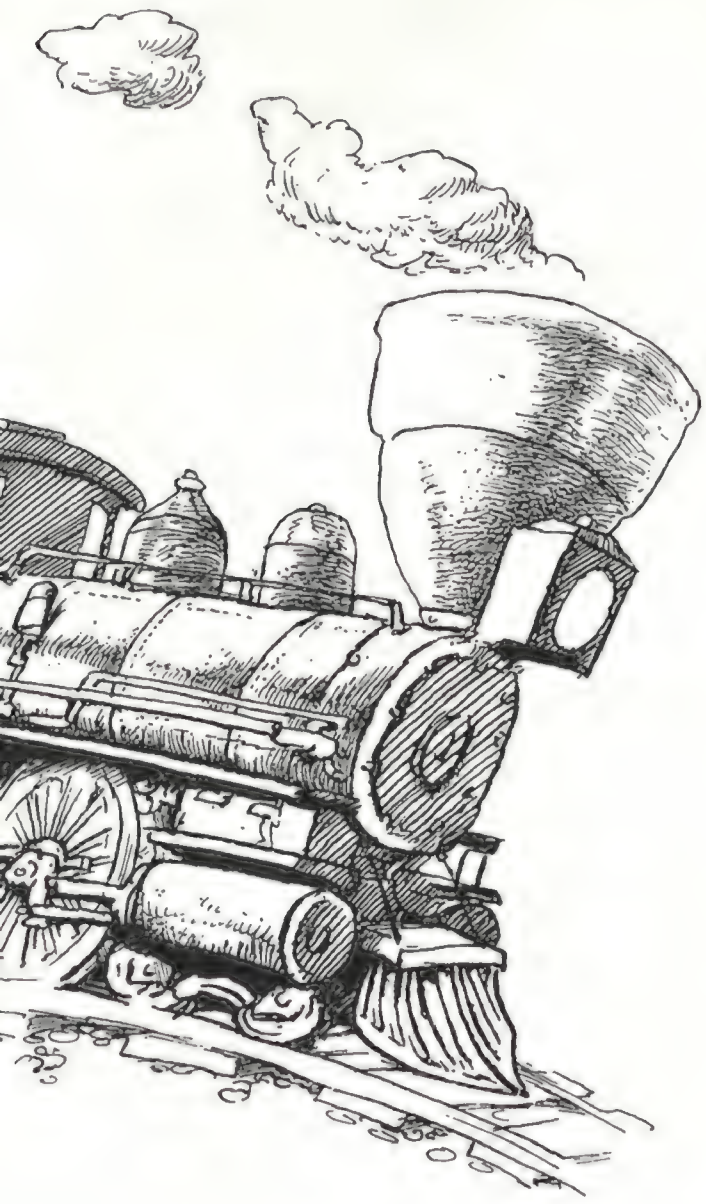


onto the stage in his general direction, shrieking and swooning. It is said that a couple of countesses once staged an impromptu wrestling match in order to approach the Hungarian demigod. When he ventured close enough to them, *they* kissed *his* hand.

Ignace Paderewski (SMITHSONIAN, March 1999), the most celebrated of Polish pianists after Chopin himself, was by all accounts only a so-so technician, but his regal demeanor, his dramatic shock of reddish gold (later white) hair and the generous portions of tempo rubato that he slathered onto the keyboard made him an impresario's dream. A hundred years ago Paderewski bowled them over in America the way Elvis Presley would a few generations later. He crisscrossed the United States like a monarch in his own private railway car—equipped not only with bedroom and dining room but salon with grand piano, too—attended by a tuner, a butler, a chef, a physician and the pianist's wife. Rubbernecks would gather at railroad crossings just to catch a glimpse of his car gliding by.

Modern pianists may be somewhat more restrained than their flamboyant predecessors, but in this tricentennial year of the piano's invention it's clear that many still inspire extravagant adulation. Clearly something is going on here that has more to do with personality than with merely playing an instrument. Painters and poets may slink through life as the most pallid of dweebs and still enjoy hugely successful careers, but no art shakes the soul as deeply as music, and within this vast domain there is no sorcerer with quite the conjuring power of a great concert pianist.

"You have to be born to perform," Gary Graffman told me when I interviewed him recently in his donnish, oak-paneled office in Philadelphia. Graffman should know. Now director of the Curtis Institute of Music, he was one of America's foremost concert pianists himself before an injury to his right hand limited his performing activities to repertoire for the left hand. "No matter how good you are, no matter how much you want to do it or how hard you practice, some people are suited to life on stage and some aren't. Charisma, whatever that means, can drive audiences wild—there's a kind of transmission to the audience which can't be described.



Paderewski crisscrossed the country like a monarch in his private railway car—equipped not only with bedroom and dining room but salon with grand piano, too—attended by a tuner, a physician and a chef.

And if you happen also to play very well, then you've got it made."

It wasn't always like that. The star system didn't exist when the well-tempered J. S. Bach was plying his trade in Muhlhausen, Weimar and Leipzig. Ironically, Bach was much more admired in his time for his keyboard talents on organ and harpsichord than for the titanic depth of his compositions, a situation roughly similar to Shakespeare being appreciated as an actor only. Even though he was an acknowledged virtuoso, Bach usually performed at a far remove from his chilly Lutheran public, improvising his fantastic fingerings and pedal work out of sight in dusty organ lofts. Mozart, one of the first great keyboard artists to make the transition from harpsichord to the newfangled pianoforte, played directly in front of his audiences, and wowed them with the unequaled artistry of his touch. But his venues were mostly royal and noble salons, and he struggled throughout his adult life against the injustice of the servant-class position to which musicians were then consigned.

The profile of the modern concert pianist took shape slowly over many years. It was Beethoven, as much as anyone, who set the standard for flamboyance. He studied Bach religiously (how else?), traveled to Vienna for lessons with Mozart, and further studied with Haydn and Salieri—but he took the gossamer of their harpsichord-based fingering and wrung its neck, stunning the Viennese salon crowd with a style so wild and tempestuous that it frequently ran away with him.

The violinist and conductor Ludwig Spohr described an incident that occurred as Beethoven was performing with an orchestra in Vienna. "Beethoven was playing a new Pianoforte-Concerto of his, but forgot at the first *tutti* that he was a Solo player, and springing up, began to direct in his usual way. At the first *sforzando* he threw out his arms so wide asunder that he knocked both the lights [candles] off the piano upon the ground."

Two boys were deputized to take the lights off the piano and hold them on either side of the keyboard, but one got just a hair too close and, at the next appearance of the fatal *sforzando*, received Beethoven's backhand right in the kisser and dropped the candlestick clattering to the stage, much to the audience's merriment and the maestro's fury.

Beethoven's new style was revolutionary and spellbinding, but it came at a price not only to kids and candles—the musical hardware suffered, too. Harold Schonberg, for many years the *New York Times*' distinguished music critic, noted that "Beethoven banged the hell out of the piano."

And then along came Franz Liszt. It is almost impossible to avoid hyperbole where Liszt is concerned. He had it all. Handsome, dashing and romantic, he was at the same time an extraordinary composer and a pianist of such unbelievable ease and skill that many concluded that he had entered into some Faustian pact with the Devil—or perhaps, considering his unconventional lifestyle and numerous mistresses, that he *was* the Devil. He was to the piano what Paganini was to the violin (they were roughly contemporaneous), and he deliberately set out to prove that anything the Italian could do on his instrument, he could equal or surpass on his. Liszt fascinated observers with his prodigious memory. Like America's eccentric chess genius Bobby Fischer, who is said to remember every move of every game he played in competition, Liszt could faultlessly play back any piano piece, however long or complex, after a single hearing. "I don't think anyone today could do that," says Claude Frank, a New York-based pianist who has soloed with most major U.S. and

The star system didn't exist when J. S. Bach was plying his trade. He usually performed at a far remove from the public, undertaking his fantastic fingering and pedal work out of sight in dusty organ lofts.

European orchestras and, for the past 25 years, taught advanced classes at Yale. "He also had an overwhelming personality, far more powerful than anyone playing today."

Liszt, Frank points out, was the first true concert pianist in the sense that he was the first to separate composing from playing. Before he came along, pianists mostly played their own compositions and variations, but Liszt's recitals around Europe—he called them "soliloquies"—included not only his own music, but also works by Beethoven, Schubert and any others he deemed worthy of presenting to his hysterical admirers. He was a dedicated and hugely influential propagator of the musical faith, and it seemed somehow natural that in his later days he took the four minor orders of the Roman Catholic Church and dressed in the black cassock of an abbé—still surrounded, though, by adoring women. Almost singlehandedly, Liszt raised the status of the concert pianist from entertainer to maestro.

There is no formula for becoming a maestro, but a distinguishing characteristic of those who achieve the distinction is that they almost always begin as child prodigies. Mozart himself was probably the most sensational of the lot. He began at the harpsichord at age 3, and at age 4 informed a professional musician that his violin was half a quarter-tone out of tune. By 5, he was composing and at 6 he was touring with his father, playing and improvising for the astonished imperial court in Vienna. Felix Mendelssohn played at 4 and began composing at 8. Camille Saint-Saëns played complex pieces at 5, composed at 6 and appeared in public at 8. The Pole Raoul von Koczalski made his debut at 4.

And so it goes. Maddeningly, however, only a few prodigies deliver on their early promise. It is one of the great bafflements of the musical world that most of the early bloomers fail, fade or simply give up, no one quite knows why. A recent example is the Greek pianist Dimitris Sgouros. Born in 1969, he didn't begin piano lessons until age 7, but within three months of that he was composing, and four months later made his public debut. He entered the Athens conservatory at 9, and graduated at 12 with first prize and the title of professor of piano, but by then was already a veteran of concertizing. His professional career began in 1981, when he auditioned for André Borocz, an impresario who organized classical music programs for elegant cruise ships. As is customary, Sgouros was prepared to perform from memory.

"What Beethoven can you play?" asked Borocz. "Everything," replied the lad without a blink, and it wasn't a lie. When he sat at the piano it was no longer a boy but an old man who played. He joined the cruise, of course, and it was the start of a tumultuous roller-coaster ride to fame. In less than a year he played Rachmaninoff's

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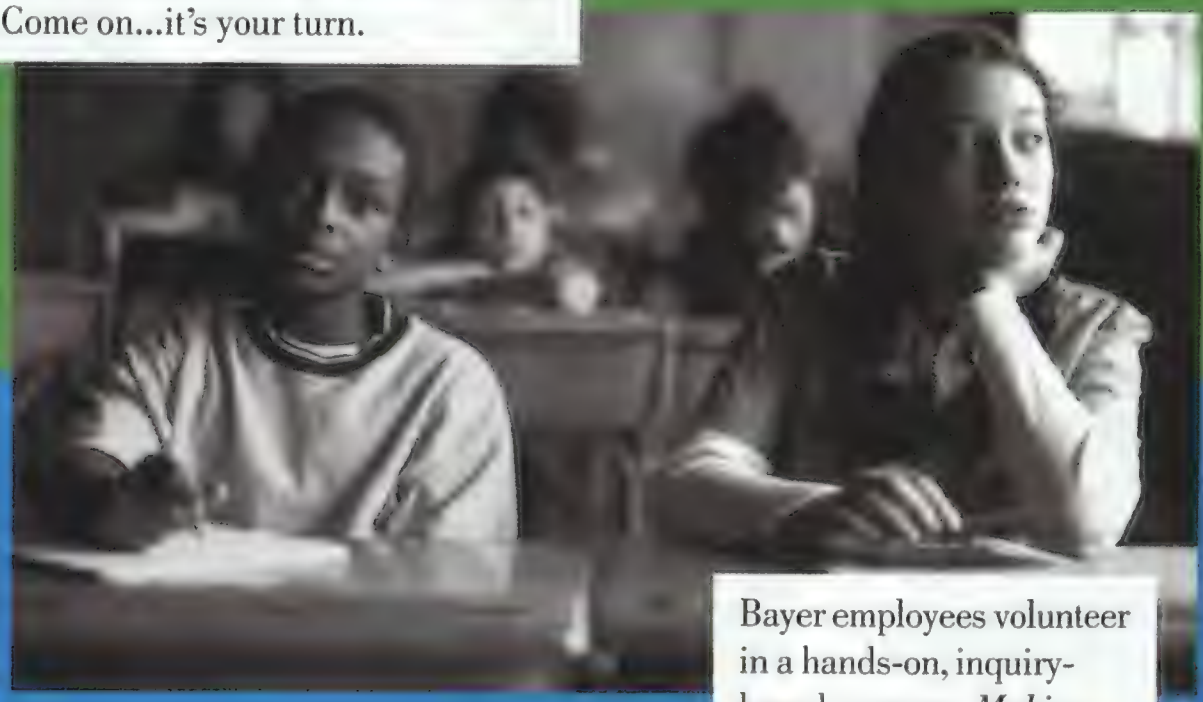

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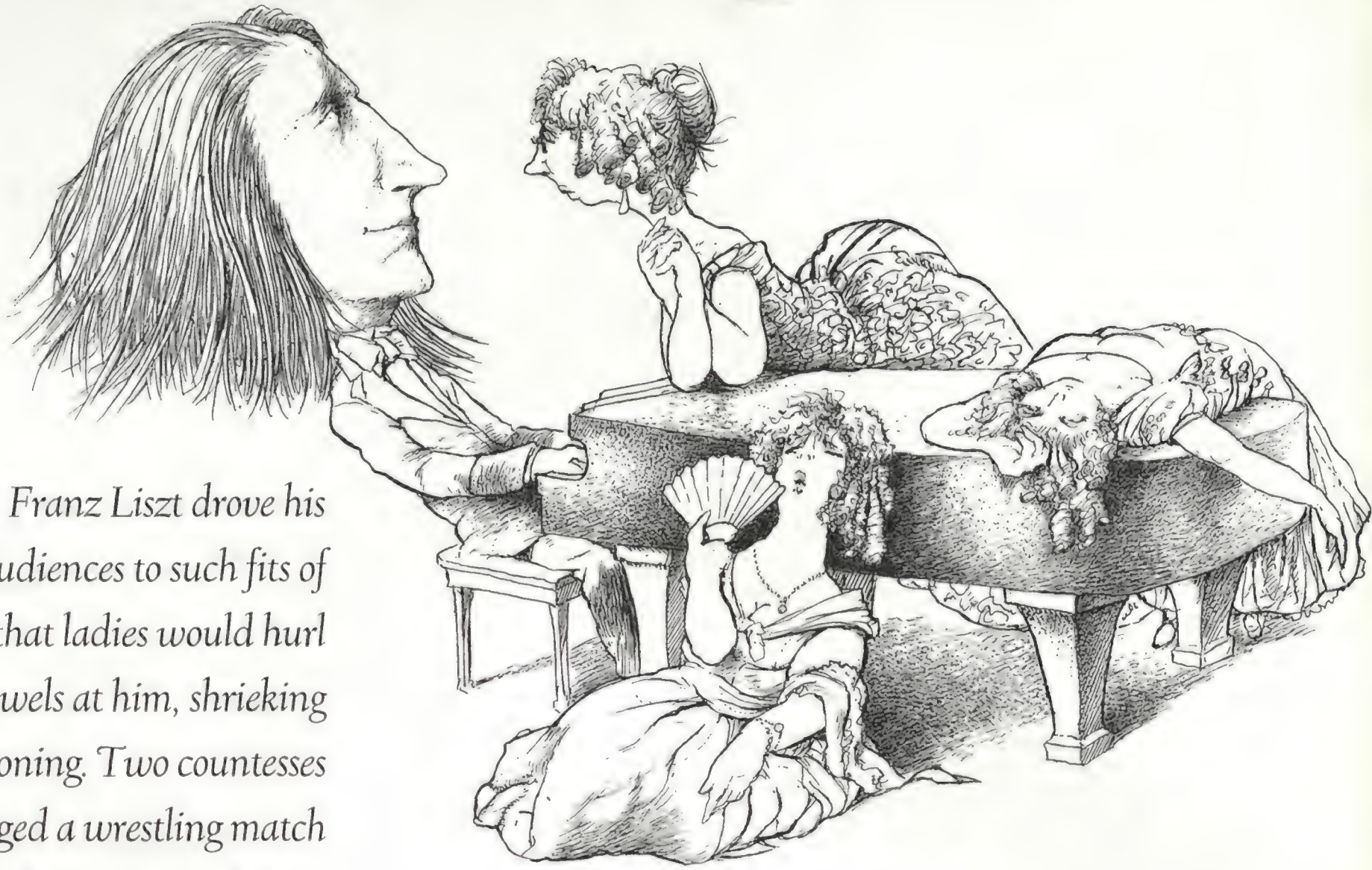

Franz Liszt drove his audiences to such fits of hysteria that ladies would hurl their jewels at him, shrieking and swooning. Two countesses once staged a wrestling match in order to approach him.

mountainous Third Piano Concerto in Carnegie Hall under the direction of Mstislav Rostropovich. "A miracle from God," Rostropovich exclaimed. "I've never seen anything like this." That same year, Sgouros gave a concert for Arthur Rubinstein at his home in Geneva, a few months before the old lion died. "Yours is the greatest playing I have ever heard," said the 95-year-old Rubinstein, "including my own."

And yet, the Sgouros rocket somehow stalled. Now 30, Sgouros continues concertizing, mostly in Greece and Germany, but he is merely one brilliant pianist among many. The fantastic international career that had been predicted for him has not materialized, while other young pianists who were unknown when he was making his juvenile starburst—talents like Yevgeni Kissin and Arcadi Volodos—drive audiences and critics into fits of thunderous acclaim. Whatever is the magic that passes from performer to listener, the phenomenal Sgouros has not yet produced it.

How does it happen that way, and why? No one knows, but the answer may have something to do with the sheer number of performers vying for attention today. Three hundred years after Bartolomeo Cristofori introduced the pianoforte in Florence, Italy, that got this whole thing rolling, there are more accomplished pianists around the world than ever before. "The economics of survival," is how Jerome Lowenthal, professor of piano at New York's Juilliard School of Music, describes the reality facing the aspiring concertizer. "There are far more performers around than opportunities."

In Brussels, Cécile Ferrière presides over the Queen Elisabeth International Music Competition. Last May her jury (Claude Frank was one of its members) listened to 102 very good pianists at the start of a month-long marathon before winnowing them down to 24, then 12, then six. Taking in two days of the semifinals, I listened to nine of those contestants. Each played so brilliantly that I was convinced he or she had to be the surefire winner. But no. Of those nine, only four made it to the finals before Vitaly Samoshko, a 25-year-old Ukrainian, took the grand prize after having proved his mettle in sonatas by Beethoven and Prokofiev and a concerto by Rachmaninoff.

The abundance of fine pianists fighting for the honors in Brussels was a sobering illustration of just how stiff the competition has become today. Alas, the economics of survival dictate that most of these performers will be obliged to make their livings in entirely different lines of work, or teach or, at best, play sporadically in minor-league circuits.

How good are all these dedicated musicians? It's a subject of some debate and disagreement. "The difference between the 19th and the 20th centuries is that technique has been projected to a previously unheard-of perfection," André Borocz told me a few months before his death last year. Founder of the Menton Music Festival in the South of France, Borocz

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had a good overview of the classical music scene, having worked in the industry for nearly 50 years. "I would pardon any number of bad notes to hear a little emotion in the playing today," he said by way of explaining his disdain for the technicians.

The recording industry has hugely influenced young pianists' determination to seek perfect technique at all costs, because decades of flawless, note-perfect recordings have led listeners to expect that as the norm. Modern recording equipment is so advanced that it is child's play for sound engineers to have a musician repeat a passage where he has hit a sour note, record the new version and slip it into the recording.

"Everybody fixes," Frank told me while sitting at a piano in his 12th-floor studio on New York's West Side, where I had interrupted his practicing. "Most of us are a bit ashamed of fixing but admit it. And I'm one of them. My corrections are minimal, though, and in my solo Beethoven sonatas I even left some of my clinkers in." At which he launched into a terrifyingly perfect Beethoven riff for me, then punctuated it with a deliberate clinker—two adjacent keys struck at the same time. "I think there's too much emphasis today on musical and technical cleanliness," he said. "If we play too literally it can become sterile, but now we compete with recordings—even sometimes with our own!"

The obsession with technical perfection has swept away a lot of the excesses and egregious showmanship that were commonplace in years past. Even so, in this dry-cleaned new age it is difficult not to yearn at least occasionally for the tics and quirks of piano eccentrics like Canada's Glenn Gould, who reinvented Bach while driving critics, audiences and conductors to distraction. Franz Mohr, the longtime head concert technician for

Playing a concerto of his own, Beethoven sprang up and began to direct in his usual way, throwing his arms so wide that he knocked the candles off the piano upon the ground.

Steinway and Sons, describes in his book *My Life With The Great Pianists* the day in 1957 when Gould shuffled into a rehearsal with the Cleveland Orchestra. He was dressed in a typically shabby outfit and carrying his music and personal effects in a black plastic garbage bag. George Szell, the Cleveland's autocratic conductor, was outraged. "I'm not playing with that bum," he cried, storming out of the concert hall. Eventually he returned to his podium and the rehearsal took place as planned, and Szell was deeply impressed by Gould's interpretation of Beethoven's Third Piano Concerto. "That bum can play the piano," he admitted.

Gould is gone now, but we may all thank Providence that the oldest living child prodigy is still with us. Victor Borge, born in Denmark in 1909, studied piano with a disciple of Liszt's and gave his first serious concert at age 8 before switching over to music-hall performances a couple of decades later. Emigrating to America in 1940, he developed the madcap comic piano routines that became one of the most successful one-man shows in history. Today, the 91-year-old maestro, still at it, can always be sure of a laugh when he takes one of his patented pratfalls from a piano stool, but his finest moment invariably comes when he pretends to stumble and, catching himself, comes down hard on the keyboard with his backside. "I assure you," he says, "I can play much better by ear."

Rudolph Chelminski last wrote for Smithsonian *about the sport of jeu de paume. Illustrations by William Bramhall appear in a variety of print media.*

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Night Belongs to the Kiwi

In behavior more reminiscent of a small mammal than a bird, the kiwi scurries across the forest floor, sniffing the leaf litter for prey.

ON THE EDGE OF A SOGGY MOUNTAIN FOREST IN NEW ZEALAND, TWO-DAYS' walk from the end of a gravel road, I stand still like a tree, peering into the darkness through a pair of night-vision binoculars. Without them I'm totally blind—even my companion, ecologist John McLennan, seems like another piece of shrubbery—and so my eyes are glued to this electronic lorgnette and the green Day-Glo view it affords: a shimmering backdrop of phantom trees through which moths pirouette and dodge like kites in high wind.

Apart from this expensive gadget, McLennan has also brought something much less high-tech: a plastic sheepdog whistle, which he carries around his neck, together with a small compass. Now I watch him fish it out from under his jacket, take a deep breath and put the whistle to his lips. The first couple of calls are rough and off-key, but soon he finds the tune.

Crrweeee! Crrweeee! Crrweeee! he repeats a dozen times.

There is a moment of deep silence, then comes an angry reply and the sound of rustling undergrowth. Something is rushing toward us, seeking confrontation.

Into my field of view runs the oddest-looking creature: a shaggy, pear-shaped fur ball that sniffs and snorts like an agitated hound. It is propelled by large *T. rex* feet. I'm surprised at how small it is for the amount of noise it's trying to make. The bird stops to let out another battle cry—a penetrating shrill that makes me want to plug up my ears—and then freezes to listen for the intruder.

We pretend to be trees, holding our breath against this fierce audio-scrutiny, and soon the fur ball relaxes and begins to feed again. Its beak taps the ground in front of it, similar to the way a blind person uses a cane to navigate a busy sidewalk. Every few steps it buries its beak up to the hilt in pursuit of a worm. Now and then it pauses to blow the dirt out of its nostrils with a sharp, angry sneeze that further adds to its fierce demeanor. Then, with no more than a rustle of ferns, the bird vanishes, though we can still hear it for a few more moments. Tap! Tap! Jab! Snort! goes the kiwi, the ghost of the forest.

Here, on this massive mountain plateau, which rises like an island above the coastal forest in the heart of New Zealand's Kahurangi National Park, the night still belongs to the kiwis. I can hear them calling across the glades: the ululating *Crrweeee!* of the male and the guttural *Churr!* of his larger partner, both ready to attack anything that blunders into their 62-acre territory.

"They fight like devils," McLennan explains. "Put two estranged kiwis together and soon you may have only one, and a pile of feathers." Their combat is a furious kick-and-tear kind of karate, marked by high jumps and lightning-fast blows of their sickle-sharp claws. Once their small kingdoms are established, however, the birds usually resolve most territorial disputes through a duel of calls, thus avoiding border scraps. This leaves more time for picking out moth larvae from underneath clumps of tussock and wrestling with earthworms.

"Some of these worms can resemble a short length of garden hose, with a diameter to match," McLennan continues. "They are powerful and reluctant victims, and usually escape after a brief struggle. But once the kiwi gets a good grip on one of them, the tug-of-war can last for several minutes. The bird applies steady pressure and waits for the opponent to yield, because yanking it would tear the worm in two and shorten the meal. Some worms phosphoresce brightly as they are withdrawn from the soil, and this eerie light can illuminate the kiwi's bill and face."

McLennan has been studying these nocturnal hunters for the past 15 years, devoting countless nights to following them through the bush. His workday doesn't end when the kiwis crawl into one of their many burrows at dawn to sleep off the night's adventures. McLennan's own burrow has been a tent or a cramped, sooty hut. And while the kiwis snuggle up for a good day's sleep, the intrepid biologist will be writing up his notes, testing the walnut-size radio transmitters and nursing bruised knees and battered shins—mementos from night encounters with logs and leg-trap holes.

The most significant discovery by McLennan in his pioneering work on the kiwi does not involve kiwi behavior, although his research has revealed some fascinating new insights in how the birds fight, eat and sleep. Instead, his biggest revelation concerns the ecology of the bird, and is stark and simple: kiwis have been battling a formidable foe for their existence—and are losing. "We are witnessing not just a decline but a nationwide population collapse," McLennan says. "If we don't halt it, we'll soon have a specter for the national icon; perhaps we'll have to

ARNO GASTEIGER; PP. 76,77 TUI DE ROY/ROVING TORTOISE

Biologist Tom Herbert bears wounds inflicted by a pint-size but pugnacious kiwi that he caught with the help of his dog Gemma in New Zealand's Trounson Kauri Park.

change it to something else furry and brown, like a kiwi fruit." Kiwi the bird, McLennan fears, this lovable forest imp and the symbol of everything great about New Zealand, may well perform another one of its vanishing tricks, this time never to reappear.

Among the ratites, an order of large birds that includes the emu, rhea, ostrich and cassowary, as well as the extinct elephant bird of Madagascar and the moa, the hen-size kiwi is the smallest and the most cryptic. The name *Ratitae* derives from *ratis*, Latin for "raft," because the birds' sternum, or breastbone, is flat and raftlike, lacking a "keel" to which flight muscles could be attached. As a result, the kiwi, like all its relatives, is permanently grounded; its vestigial wing stumplets inspired the bird's genus name, *Apteryx*, which means "wingless." But the Linnaean taxonomy only hints at the true peculiarity of the kiwi: it is an oddball even among its eccentric ratite cousins.

While all other ratites thump the earth with their large dinosaurian feet, the kiwi can walk almost silently if it chooses, its loping trot muffled by fleshy foot pads as soft as an infant's hand. It digs burrows like a badger, has a face bristled with felinelike whiskers, and its feathers, which lack aftershafts, resemble the fur coat of a rodent more than the plumage of a bird.

The kiwi emerges from its burrow just after sunset and, like a dog, literally follows its nose in search of food. Its long and flexible beak has a pair of extremely sensitive nostrils at the very tip. When stabbed repeatedly into the soggy soil, the beak serves as an olfactory underground sensor. And while the bones of birds are usually light and hollow to allow for flight, those of the kiwi are heavy and filled with marrow. Its average body temperature, 100 degrees Fahrenheit, is closer to a human's than to other birds'. In fact, the kiwi is a remarkably unbirdlike bird. Consequently, zoologist William Calder of the University of Arizona in Tucson bestowed upon it the title of "honorary mammal."

When the first specimen skin arrived in England around 1811, it was considered a hoax on a par with the outlandish Australian platypus, an unlikely anatomical hodgepodge skillfully stitched together by a mischievous taxidermist. Back in 1813, George Shaw, the assistant keeper of zoology at the British Museum, described it as best he could and named it *Apteryx australis*. The artist's impression, which accompanied the description, shows a penguinlike creature with a Pinocchio nose. Only later did it become apparent that the kiwi was neither a bird collector's jest nor an evolutionary whim, and its proportions and anatomy were correctly rendered. Today, most taxonomists recognize four species of kiwi: tokoeka, great spotted, little spotted and North Island brown.

Of course, the Maori of New Zealand had known about the kiwi long before British zoologists puzzled over their first specimen. Maori refer to the kiwi as Te Manuhuna a Tane, the Hidden Bird of Tane, the god of the forest. While the corpulent moa provided staple meat for whole families among many Maori tribes, the kiwi was considered food fit only for chiefs. Maori rulers claimed exclusive hunting rights over large tracts of the forest. The protocols were strict and transgression against them was often penalized with death.

The meat of the kiwi was roasted or steamed in underground ovens, but it was the shaggy, hairlike feathers that were most sought after. These were fashioned into an exquisite ceremonial cloak, known as a *kahu kiwi*. Like the fur coats that appear on rich Parisians or New Yorkers, the full-length kahu kiwi was the symbol of affluence and high tribal status. But by the time the first Europeans arrived in New Zealand in the 1840s, the full-length cloaks were already rare.

Europeans in the new land were less fond of the kiwi than were the Maori. Plentiful and fearless native birds were often the only food choice; among them, the kiwi was rarely a favorite *plat du jour*. Charlie Douglas, a turn-of-the-century explorer and keen ornithologist, described how he sprained his ankle once while crossing a large swamp and spent several days crawling home. Along the way he cornered two kiwis in their burrow: ". . . being pushed with hunger, I ate the pair of them; under the circumstances I would have eaten the last of the Dodos," he related. They had an earthy flavor, he added, like a piece of pork boiled in an old coffin.

The kiwis, however, must have been at least somewhat tasty, because they were served in country inns. Rudyard Kipling ate one and pronounced it quite acceptable. Today Kiwi Burgers are available across New Zealand, but Kipling would be disappointed: they're nothing more than hamburgers nimbly marketed. In fact, the image of the kiwi has taken New Zealand by storm: kiwis appear onscreen at the end of the TV day, on

OTOROHANGA ZOOLOGICAL SOCIETY

Birthing is a laborious process for both the mother, who delivers an egg that's nearly a quarter of her body mass (opposite), and the hatchling (above), who takes up to three days to crack through the tough shell.

ROD MORRIS (3)

backs of coins and cereal boxes, in corporate logos, as quality trademarks and in lottery games, and in the name of an airline. They are the sobriquet for New Zealanders, an omnipresent national icon and every child's mascot. Everywhere, these nosy, amiable, hands-in-the-pockets bipeds advertise, entice, welcome. The only place they are not seen is in the wild.

Bird-watchers rarely see kiwis because the birds are masters of camouflage and stealth. Their mottled plumage blends perfectly with the forest understory. In addition they dig their nesting burrows many months in advance, so that the moss and ferns reestablish themselves around the entrance and obliterate all signs of excavation. When leaving a burrow for a few hours of feeding, a kiwi often masks the opening with deftly placed twigs, a cunning maneuver that fools even the bushwise Maori. Wrote anthropologist Elsdon Best, "I have repeatedly been told that the eggs of this bird remain so long in the nest that roots grow over them."

During the first five months of a research project involving the North Island browns, McLennan did not see a single kiwi. Before he realized the importance of a trained tracking dog, McLennan crawled through the bush, night after night, seeing nothing but fresh kiwi footprints. Finally he managed to catch a young male in a pitfall trap. The encounter surprised both man and bird.

Paradoxically, it is the kiwi's exceptional ability to camouflage itself that may prove its undoing. If all—or almost all—kiwis suddenly disappeared, no one but a handful of field biologists would ever notice. And this is exactly what has happened, though I use the word "suddenly" in a biological context. The kiwi has camouflaged its own path toward extinction.

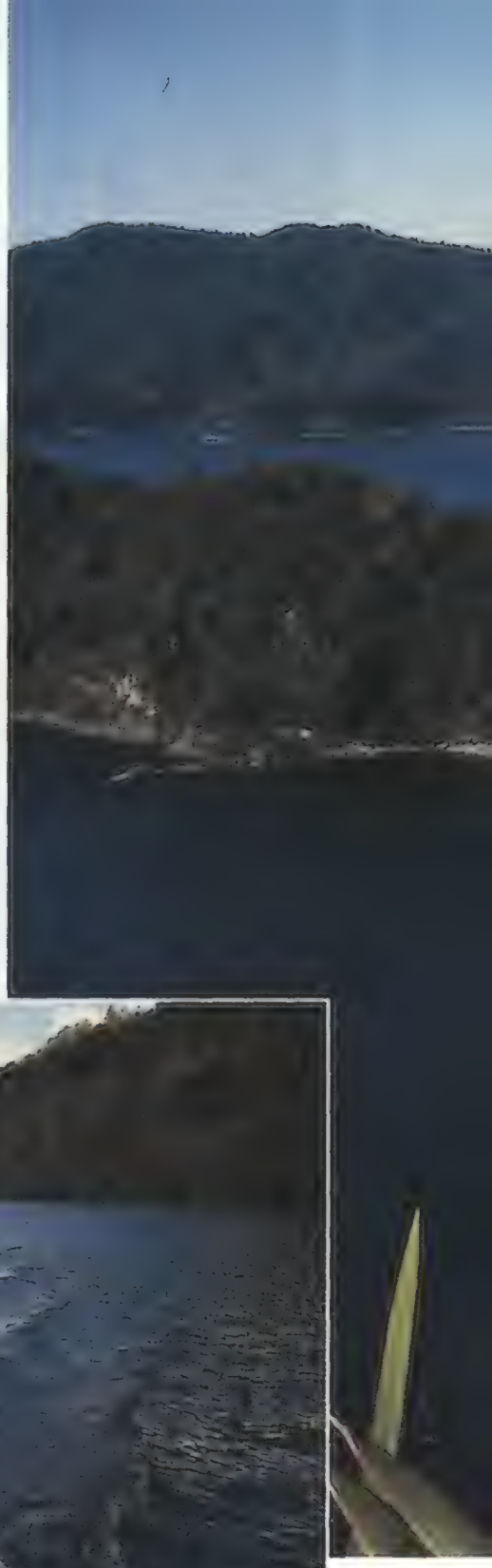
When Tane Mahuta, the largest remaining kauri tree in the Northland panhandle, was still a sapling, about 1,200 years ago, there were an estimated 12 million kiwis spread throughout New Zealand. Because of the scarcity of fossil evidence, biologists remain uncertain whether ratite ancestors of the moa and kiwi were already here when plate tectonics broke the supercontinent of Gondwana apart some 80 million years ago and sent New Zealand into the Pacific, or whether they flew in later, and then became flightless. The fossils that do exist suggest that kiwis have been here between 60 million and 90 million years.

In 1996, biologists made the startling discovery that only about 70,000 kiwis were alive. Their population was melting away at a rate of 6 percent per year and could disappear altogether within a few decades. The smallest, shyest, and once the most common species, the little spotted, was nowhere to be seen. Although the pompous and

provocative call of the kiwi was still heard around the country, it now sounded to biologists more like a last-gasp Mayday call of a vanishing species. One of the few who heeded this plaintive call was McLennan. A keen outdoorsman, more at home in the forest or mountains than in the lecture halls of academia, he put himself through university by diving for abalone and hunting white-tailed deer around the coast of Stewart Island. After completing his doctorate in Aberdeen, Scotland (on the flocking behavior of wading birds), McLennan turned his attention to the kiwi, drawn by the formidable fieldwork challenge and the fact that it was largely unstudied. (So little was known about the kiwi that a variety of the brown species, the Okarito, and a variety of the tokoeka species, the Haast, were not recognized until 1993.)

He fell in love with these lively fur balls; over the years he has become to kiwis what Jane Goodall is to chimpanzees, a tireless and passionate advocate of their cause. Most important has been his investigation into what's been killing kiwis and how their extinction can be averted. Now, he says, he finally has the answers.

His current study area is the 1,850-acre Puketukutuku Peninsula, which juts into Lake Waikaremoana, a misty, many-armed waterway lost among the green rolling hills. It's all part of Te Urewera National Park, which in turn constitutes the largest remaining tract of native forest on North Island. It is an unaltered and relatively remote place with rugged geographical features bearing mellifluous Maori names such as Te Upokookahungunu, Te Taraoamohanga and Whanganuioparua. To get there I must follow one of the country's longest unpaved roads on a winding, juddering two-hour drive, where I pass a Maori hunter on horseback riding home unhurriedly with the carcass of a deer dangling over the saddle.



McLennan picks me up in his battered boat, which has clocked a mileage equivalent of the length of the equator on this none-too-large lake; we plane across the wind-corrugated water to the ranger's hut, which has become McLennan's second home. Late in the evening, we motor to the study area: some of the eggs are due to hatch anytime now, and McLennan wants to check on their progress. We walk for an hour along a thin trail marked only by tiny cat's-eye reflectors, then settle down for a long wait in the nook of a mossy stump.

The forest is so silent and still that I can hear the leaves falling. Just after midnight, the silence is shattered by a noisy outburst: it's as if some obnoxious child began blowing a whistle with such force and vigor that he promptly ran out of breath. It's the sound of a male kiwi stating its territorial presence and announcing its departure for the night's hunt.

For us, too, it's a signal that the incubating adult is gone from the burrow. McLennan picks his way carefully down a steep and shallow gully, stopping midway in front of a well-

CLOCKWISE FROM UPPER LEFT: PETE AND JUDY MORRIN (2); ARNO GASTEIGER

Biologists John McLennan (holding bird) and Jonathan Miles transport a North Island brown kiwi (bottom left) to a protected peninsula in Lake Waikaremoana (above). Radiotelemetric techniques (top left) will be used to monitor its movement.

concealed burrow opening. An arm's-length inside resides one huge egg; next to it is something that resembles a rolled-up hedgehog: brown, round and spiky. It is a four-day-old kiwi chick.

Its beak is as long and as pink as a child's finger. Its furry feathers are soft and moist, and smell like a rotten log. "There are few things in this world as beautiful as this," McLennan whispers, cradling the chick in his large hands. "This is why I walk around the forest for months. It is as though you were touching the soul of this land."

This particular soul, presently drowsy to the point of nodding off, is the product of an extremely unorthodox parental strategy. Relative to its size, the kiwi has one of the largest and richest eggs of any bird. In fact, it's six times larger than one would expect for a bird of its weight The egg grows to constitute up to 25 percent of the bird's mass and fills up the female's body so completely that it leaves no room for food. Sometimes the egg-bearing female will soak her belly in puddles of cold water to relieve the inflammation and to rest the weight.

Following a 75-to-84-day incubation period and a two-to-three-day ordeal of kicking and poking its way out of the shell, the chick emerges into the world, an exact miniature of the adult. And what a cruel world it will prove to be!

After the capital investment of energy and effort, its parents move on to the business of producing another egg. While they may tolerate the chick in their territory, they will not feed it. The mother leaves it well cared for, however, in one respect: the chick's tummy, taut like a balloon, is distended with nearly half of the remaining egg's yolk, which will nourish it for the first two to three weeks of its life.

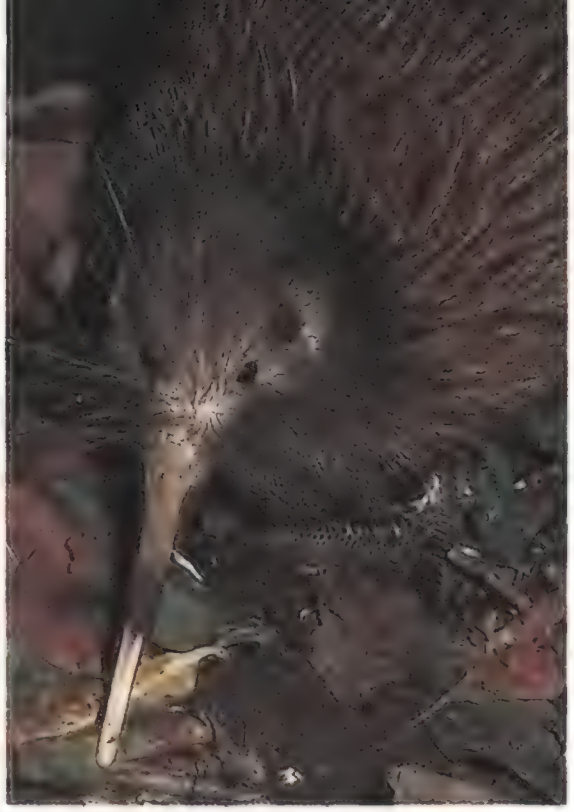
Within a few days the chick begins to venture outside the burrow; by day ten, it's out for most of the night. Somehow the chick knows all about

finding the right food and shelter without being taught. Somehow it understands that survival means eating as much as possible and growing fast. Even so, its odds of making it are slim. McLennan and his colleagues at the Kiwi Recovery Group—a kind of war council formed in 1991 to prevent the species from becoming extinct—found that 95 percent of kiwi chicks die within the first few weeks of their life. On average, 5 percent grow into adulthood. Fortunately, they also discovered the killer.

New Zealand was once an avian Eden, a remote and isolated series of islands in the South Pacific. Except for three species of small bats, it had no mammals. The kiwi filled the ecological niche occupied elsewhere by anteaters, hedgehogs or echidnas.

But the European settlers found the land lacking in familiar animals and began populating it with beasts from their own continent. Trout acclimatized so well that New Zealand is now a premier angling destination. Moose, introduced into Fiordland, fared less well, the last one having been shot in 1952, and chamois and the Himalayan tahr have been confined to alpine habitat. But the red deer, the rabbit and the brush-tailed possum spread like the plague. Over a few decades their status changed from noble game and pets to that of pests, devastating indigenous animal and plant populations and causing ecological disaster. Wars were declared against the infestation.

Only the "deer war" was considered victorious, and then only after the advent of helicopter culling in the 1960s, when airborne hunters, coming across a herd of deer, fired until their weapons were too hot to touch. The possums continued to eat the forest from the inside out (SMITHSONIAN, July 1992), and waves of countless rabbits swept across the grasslands, leaving behind a moonscape of empty warrens and heartbroken farmers.



Long, whiskerlike hairs help the kiwi find its way in the dark.

In the meantime, the second act of the tragedy unfolded: to control the smaller herbivores a series of predators were introduced—stoats, ferrets and weasels. These cunning hunters and members of the Mustelidae family adapted to the new homeland with gusto, taking a bite out of the rabbit and possum population, but also developing a taste for native birds, which had never encountered a predator before. A century ago, Charlie Douglas wrote about the kakapo, the flightless parrot: "If the bird only knew its powers, it wouldn't fall such an easy prey [to] stoats and ferrets. One grasp of his powerful claws would crush either of those animals, but he has no idea of attack or defense." Consequently, there are more taxidermized museum exhibits of the kakapo than there are kakapos in the wild, and now the kiwi is following suit.

The chief kakapo and kiwi predator is the stoat. An agile, ferocious hunter, an endurance swimmer and a prolific breeder, it is a top-of-the-food-chain killing machine within its home range of 250 to 500 acres. The stoat rarely attacks prey that it cannot dispatch with ease; an adult kiwi could kick it to shreds, but a gawkish chick makes a fast meal. The predator knows its match precisely, rarely attacking a kiwi that's more than $1\frac{3}{4}$ pounds. The defenseless kiwi chick must endure 17 long and perilous weeks before reaching a safe weight and size.

Determining the kiwi's window of vulnerability represents one of McLennan's key findings. His goal since 1995 has been to create a stoat-proof enclave. He has chosen the peninsula of Puketukutuku on North Island because it can be easily defended. Along the entire coastline and on some of the major ridges, McLennan set traps. Across the narrow neck of the peninsula he ran a double trapline. Then, with the help of a professional hunter, he eradicated most of the stoats inside the enclosure, creating a haven for kiwis. Although stoats remain a problem, close to 60 percent of kiwi chicks have reached adulthood over the past four years.

Around New Zealand there are numerous small islands, which have become refuges for species that elsewhere are either extinct or extremely rare. Some of these islands were preserved naturally, often through their sheer inaccessibility, while others, in the fashion of McLennan's peninsula, were restored by eradicating all noxious animals and taking laborious steps to prevent reinvasion. Whatever their past, these islands now serve as insular aviaries, genetic caches for endangered species, granting them an evolutionary second chance.

Kapiti Island, a sliver of mountainous rain-doused land just north of Wellington, the country's capital, serves as the best and most dramatic example of this conservation strategy. Once the site of several whaling stations, it had turned into a neglected sheep farm, overrun with feral animals and rodents. In 1897, the island was turned into a native flora and fauna sanctuary. The cleared forest slowly grew back and the island managers methodically eradicated the vermin. Between 1980 and 1986, they

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No other creature has given its name to both a nation's inhabitants and its cultural identity.

removed 22,500 possums from the 5,000-acre island. One week before my visit the reserve was officially declared free of rats.

Kapiti is now aflutter with birds unseen in most parts of the country. But perhaps most remarkable of all, Kapiti is the location of one of the most incredible comeback stories in New Zealand history. The only remaining population of the little spotted kiwi in the world somehow managed to survive on this once vermin-infested island. Recently, in the absence of predators and other threats, the little spotted kiwi has made an explosive recovery and now fills the island to its full carrying capacity. There are more than 1,000 individuals, and a number of pairs have been shipped to other offshore islands where they have founded healthy and self-sustaining populations.

The success of island refuges and the relatively fast regeneration of insular habitats sparked a new question: Could similar fragments of native ecosystems be restored on the New Zealand mainland as well? And could these preserves, in turn, grow and merge, and provide an abode for the raucous chorus of aboriginal birds, otherwise condemned forever to their tiny offshore aviaries?

Alan Saunders, the head of the government-funded "Mainland Islands" project and a man of irrepressible enthusiasm, is certain that this can be done. "Until recently, we've been an extinction hot spot of the world, on a par with Hawaii and Mauritius," he told me. "But the tide is slowly turning. We are now moving from protection of single species into restoration of entire ecosystems. If you look after the habitat and remove some of the alien predators, the birds and other endemics will well take care of themselves." It is the same principle that McLennan has employed successfully on Puketukutuku.

There is a good chance that the kiwi, that adorable and puckish national icon, may soon become an ambassador of ecological restoration. McLennan explains: "Kiwis are born survivors. They can live anywhere. They can live with penguins for neighbors along the coastal forests, thrive on modified farmlands, and pine tree plantations, and do well in the high-alpine environment, where they can climb incredibly steep slopes the way the mountaineers do, using their claws for crampons, their beaks for ice axes.

"They are breeding machines; they produce those huge eggs with the consistency of battery hens," McLennan tells me. "They are tough, adaptable and resilient. All they need is some peace during the first few months of their life, because, at the moment, the stoats just seem to wait for the eggs to crack open so they can devour the hatchlings. But take the stoats away and the sight of a kiwi picking worms out of your vegetable garden at night could become a reality.

"We have found the solution, a precise formula for saving the kiwi," McLennan continues. "We know how, when and how often to trap the stoat. But there is only a handful of us and we can't do it all. We need the support of the communities, the backup of the public. There is now a price per head of every surviving chick, and it can be directly converted into a number of dead stoats. Ultimately, it's the matter of money spent on predator control, and of finding that money in the first place. The future of the kiwi will be a test case of whether we actually love the bird itself as much as we love its image."

In the flight from extinction, this image may still be the Hidden Bird's strongest trump card, and its charismatic oddity, its iconic and honorary standing may just generate enough public momentum to see the kiwi through the crisis. A recent "Kiwis for kiwis" initiative, launched by the Royal Forest and Bird Protection Society, one of the country's largest and most vocal environmental groups, aims to tap this well of empathy for the national bird, hoping to raise $5 million a year over the next decade and drum up some solid support for the cause.

The creators of the campaign hope that kiwis and Kiwis can one day live together side by side. All other alternatives seem inconceivable. Without the national bird, the concept of Kiwiana, the all-embracing neologism for New Zealand culture and tradition, would be just an empty catchword, a memento from another lost battle, a carapace without its eccentric soul.

A naturalized Kiwi himself, Polish-born writer Derek Grzelewski lives in New Zealand.

C.C. LOCKWOOD/EARTH SCENES; TUI DE ROY/ROVING TORTOISE

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north carolina
a better place to be

Scythian Gold

AN EXHIBITION OF TREASURES FROM ANCIENT UKRAINE ILLUMINATES A GREAT WARRIOR CULTURE, NOTABLE FOR ITS RELENTLESS FEROCITY AND REMARKABLE ART ◆ BY DOUG STEWART

SOMEWHERE UP IN THE SWEET HEREAFTER, A GRAVE ROBBER is cursing his eternal rotten luck for having plied his trade before the days of metal detectors. When he tunneled into a fifth-century B.C. Scythian burial chamber near a tributary of Ukraine's Dnieper River, he pocketed a goodly trove of gold artifacts scattered about the bones of a one-time Scythian strongman. But how was he to know that hidden under just a few inches of dirt next to the deceased were priceless masterpieces of solid gold: an ornate finial covered with a furious orgy of snarling, thrashing animals, a braided-gold necklace and an exquisite drinking cup with six horse heads patterned in a tight, whirling hexagon, their gold reins radiating from a disk of Baltic amber?

The owners of these treasures were violent, hard-living horsemen who dominated the European steppe from the seventh to the third century B.C. Like the Huns and the Mongols, who thundered across the same open grasslands centuries later, the Scythians lived in the saddle and traveled light. At the same time, oddly enough, they were among the ancient world's most extravagant art patrons. Nearly all their treasure, most of it finely wrought gold, was small enough to wear, befitting a people on the move.

Discovered in 1988, this fourth-century B.C. gold helmet provided valuable information about Scythian dress and weaponry. Here, a longhaired bearded warrior, in belted tunic and ankle-high boots, spars with two enemies. The charmingly rendered golden boar (above) likely served as the handle of a wooden cup.

BRUCE WHITE (2)

"The elite within this nomadic culture were able to amass an incredible amount of wealth," says Gerry D. Scott III, curator of ancient art at the San Antonio Museum of Art, "and I guess, like the Egyptians, they believed they could take it with them, so fortunately we've been able to learn about their culture from their burials."

The three objects near the Dnieper that the looter missed remained hidden until 1990, when a team of Ukrainian archaeologists uncovered them. They are now highlights of a sumptuous new traveling exhibition, "Gold of the Nomads: Scythian Treasures from Ancient Ukraine," at Baltimore's Walters Art Gallery from March 7 to May 28. The show includes a number of other recently unearthed pieces, many of which have never before left Ukraine. With more than 170 artifacts—fanciful and attention-getting jewelry, weapons and ritual objects—this is the most comprehensive exhibition of Scythian gold ever assembled. It opened last fall at the San Antonio Museum of Art and will move from Baltimore to the Los Angeles County Museum of Art on July 2 and to the Brooklyn Museum of Art on October 29. Next year, it travels to Toronto's Royal Ontario Museum, Kansas City's Nelson Atkins Museum of Art and the Grand Palais in Paris.

Neither Greek nor Asian, Scythian art arose from the creative interplay of nomadic Central Asia and the classical Mediterranean world, says archaeologist Ellen D. Reeder. Now deputy director for art at the Brooklyn Museum, Reeder curated the exhibition while at the Walters Art Gallery, in collaboration with Gerry Scott in San Antonio

and experts on Scythian culture in Ukraine. Reeder also has edited the companion volume from Harry N. Abrams, Inc., *Scythian Gold: Treasures from Ancient Ukraine*. "There's a common idea that nomads are longhaired and unwashed, so they must be primitive, but that's not true," she says. The Scythians had a discriminating eye for good design, and the wealth to indulge it. By the fifth century B.C., the steppe-dwelling horsemen were important patrons of master goldsmiths living in Greek cities on the northern shores of the Black Sea. "It was a symbiotic relationship. The Greeks, who didn't want to leave their cities on the Black Sea, were happy to work with the Scythians, who didn't want to abandon their nomadic life." The result, she says, was "a wonderful new artistic amalgamation."

To traditional art historians, the Scythians are little more than a footnote. The neglect is due in part to the Scythians' lack of a written language and in part to their disdain for building houses, fortresses, temples, or monuments other than graves. The few eyewitness reports on the Scythians' ways were usually written by Greeks, who tended to be condescending if not hostile. The fifth-century B.C. physician Hippocrates reported that Scythians were "bloated" and "sweaty." His contemporary Aristophanes wrote them into his plays as stock comic characters who dressed outlandishly, spoke mangled Greek and drank to excess. More charitable was the fourth-century B.C. historian Ephorus. Some of the Scythians, he maintained, "excel all men in justice. . . . They not only are orderly towards one another . . . but also remain invincible and unconquered by outsiders."

Scythia was less a nation than a group of related, warring nomadic tribes. During the first millennium B.C., what was sometimes called Greater Scythia stretched from the Carpathian Mountains in eastern Europe to Mongolia, more than 4,000 miles away. The Scythians who roamed this vast sweep of grasslands were probably of Indo-European stock and may have spoken a language related to Persian. The new exhibition focuses on finds from tombs of the most powerful and sophisticated of these nomad groups, which the ancient Greeks called the Royal Scythians. Having swept into present-day Ukraine from Central Asia sometime after 700 B.C., they soon dominated the flat, fertile pastures from the Danube to the Don and viewed all other Scythians as their slaves.

These nomads had a fearsome reputation throughout the ancient world. At a time when the horse had not been domesticated for very long, the Scythians fielded the first truly effective mounted cavalry. The sight of Scythian warriors on horseback could have inspired the Greek myth of the centaur. And a biblical allusion to a horde threatening Babylon, in the Book of Jeremiah, possibly referred to a Scythian penetration into the Near East in the seventh century B.C.: "Behold, a people comes from the north. . . . They lay hold of bow and spear; they are cruel, and have no mercy. The sound of them is like the roaring of the sea; they ride upon horses, arrayed as a man for battle against you, O daughter of Babylon!"

Suddenly, wild-eyed horsemen broke ranks and galloped recklessly across the plain.

Following a fact-finding mission to the northern Black Sea coast in the fifth century B.C., Herodotus devoted much of Book IV of his *Histories* to tabloid-worthy tales of the Scythians' gruesome exploits. Wealthy Scythians, he reported, gilded the insides of their enemies' skulls and used them as drinking cups. "They treat the skulls of their kinsmen in the same way, in cases where quarrels have occurred." Though Herodotus professed not to admire the Scythians, he saluted their military success. "A people without fortified towns, living, as the Scythians do, in wagons which they take with them wherever they go, accustomed, one and all, to fight on horseback with bows and arrows, and dependent for their food not upon agriculture but upon their cattle: how can such a people fail to defeat the attempt of an invader not only to subdue them, but even to make contact with them?"

Darius the Great of Persia learned this to

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his regret when he invaded the Scythian heartland in 513 B.C. at the head of a 700,000-man army. The Scythians' use of "tactical retreat"—staying tauntingly just out of reach, while poisoning wells and burning fields as they withdrew—confounded the king and exhausted his troops. After several weeks, the Scythian army at last approached the Persian camp, ready to do battle. Suddenly, reported Herodotus, boisterous whoops arose from the Scythian lines as wild-eyed horsemen broke ranks and galloped recklessly across the plain—in pursuit of a hare. "These fellows have a hearty contempt for us," Darius was said to mutter to an aide. Humiliated, the Persians began their retreat under cover of darkness that night.

On their home ground, the Scythians were invincible for four centuries. "Using the speed of their horses, these people in essence practiced an ancient form of blitzkrieg," Gerry Scott tells me as he and Ellen Reeder take me around the exhibition at the San Antonio Museum of Art. On display is a suit of reconstructed armor—leather covered with tiny, scalelike iron plates—based on archaeological finds. Nearby is a lavish gold cover for a gorytos, a combination bow-and-arrow holder that the Scythians apparently invented; its intricate gilded design suggests it was either ceremonial or belonged to a paramount chieftain. Next to it is an impressive array of arrowheads, used in hunting as well as combat.

"The Scythians were incredible archers," Scott says, "and they chose their weapons depending on what they were hunting. If they were after birds, they'd choose a delicate arrowhead because they aimed for the eye." Warriors might carry more than 200 needle-sharp arrows into battle. Several of the arrowheads, I notice, are barbed. "These were designed to do as much damage coming out as going in," Scott explains. Morever, wrote Ovid of the Scythians' favored weapon, "a poisonous juice clings to the flying metal"—a juice brewed from snake venom, putrefied human blood and dung (to hasten infection). The Greeks dubbed the mixture "scythicon." Could there be any doubt that these people reveled in warfare?

Other than the weapons on display, however, most of the pieces in the exhibition exude a sense not of violence but of ostentatious refinement and even charm. There are hammered-gold headdresses, decorative gold scabbards,

Opposite, from left: A disk of hammered gold bearing a spotted leopard attacking a stag adorns the top of a fifth-century B.C. finial; the life-size limestone stele of a warrior once marked a Scythian burial mound. Left: This modern reconstruction of a Scythian warrior's battle dress, complete with iron-plated armor, is based on remains found in fifth- and fourth-century B.C. tombs.

elaborately wrought jewelry and embossed gold plaques the size of postage stamps that were sewn onto their clothing. Though they were technically homeless nomads, the Scythians of the European steppe were nonetheless at the top of their world's pecking order. "The area north of the Black Sea was a breadbasket of the ancient Mediterranean world," Reeder says. "Grain exported from this region kept ancient Greece alive." The Scythians who ruled the area weren't farming the grain; more likely, they exacted tribute from those who did. They also commandeered a lively north-south trade in fur, timber and, perhaps, slaves. "They went from a pastoral culture to a military culture to the international import-export business," Reeder continues. "You have to admire their adaptability." In the process, they grew immensely wealthy, which allowed them to buy caravans' worth of gold (probably from the Urals or Central Asia) and to pay for artisans to shape it to their taste.

"The sunlight would have jumped off all of this gold—it would have been fabulous."

Scythians were fond of three pictorial motifs, which recur obsessively in their artwork: the leopard, the eagle and the stag. Most likely, these animals were cherished memories from the Scythians' origins in the mountainous wilds of Central Asia. Burial sites in the Altai Mountains, near Mongolia, have yielded artifacts with much the same imagery. The three animals, along with other beasts, appear as stylized, almost abstract forms. Worn on a gorytos or tunic, images of predators and prey might have served as good-luck charms for a hunter or a fighter. Often, the antlers and hooves of stags mutate fancifully into bird heads or spiral motifs. On one plaque, a tiny spotted leopard munches on a severed human head.

Oddly, horses rarely figure in the Scythians' animal-style art. Perhaps horses were too ordinary and too tame to merit immortality in art. One important exception is a pair of sixth-century B.C. cheekpieces carved in bone, with a horse head at one end and a single hoof at the other. The Scythians themselves are also notably absent from most of the objects on display, but here, too, there are exceptions. One is a fourth-century B.C. solid-gold helmet on which longhaired warriors with embroidered tunics, tight-fitting leggings and tasseled scabbards menace one another with swords and spears. That all the combatants are dressed Scythian-style suggests a bit of internecine strife. "Herodotus records that these people did take scalps," Scott says, referring to one scene on the helmet. "The fact that the man on the ground is being grabbed by the hair is probably significant here."

Gold being a soft metal, this extravagant headgear was no doubt intended for show, not protection. Indeed, showiness seems central to the Scythian aesthetic. Nomads or no, these bold horsemen must have prided themselves on the lavishness as well as the sheer volume of their goldwork. "This makes sense," Scott says, "when you consider they were living in yurtlike structures that they took down and moved along with their livestock. In that situation, you can't put in a swimming pool to show you're elite." Better, he says, to concentrate on personal displays. One buried Scythian male was found wearing a gold earring, a heavy bronze torque, and gold beads, buttons and plaques on his clothing. Both men and women were buried with mirrors, possibly to admire themselves in the afterlife.

I take in a pair of earrings that would make a belly dancer blush, each an exaggerated boat hull from which dense clusters of golden ducks dangle on gold chains (left). Yes, Reeder says, an Athenian aesthete would have sneered at these as tacky gewgaws for nouveau riche barbarians. "The Scythians took a Greek design and made it bigger, made it fatter, made it louder," she explains.

Louder in more ways than one. Noisemaking pendants were a favorite of well-to-do Scythian women. A particularly elaborate pair of cascading headdress pendants would have jingled distractingly next to the wearer's ears. "When you move these, the pendants make a mesmerizing tinkle and rattle,"

LYNTON GARDINER; BRUCE WHITE

Reeder says. "And when a woman walked through an encampment, the sunlight would have jumped off all of this gold—it would have been fabulous."

One of the show's centerpieces is a very different kind of noisemaker. A mysterious bronze ornament (p. 96), possibly a cap for a tent pole or a staff, consists of a set of curved branches with a nude goateed male (most likely a deity) in the center. Perched on his head, or maybe carrying him off, is an eagle with wings outstretched. "This was probably an important ritual object," Reeder says. "The sound it makes when it moves is just magical." A ritual use would help explain its jarringly different feel from the more refined, clearly secular objects in the show. Its form may hark back to homegrown Asian archetypes.

Later objects increasingly show the influence of Greek and Near Eastern figurative art. A golden scabbard from the late fourth century B.C. features a winged griffin. Another boasts a boar with a tightly curled mane, calling to mind the almost heraldic figures on Assyrian reliefs. Both these and a spectacular gorytos cover include the Scythians' favorite motif, animals in deadly combat. The gorytos, however, also offers a rare tableau of human figures interacting in some long-forgotten drama (detail, above). The figures are Greek in style, but aspects of the scene are decidedly un-Greek. "Notice that each of the nude males has some strategically placed drapery," says Scott. Scythians were evidently prudes. And everyone's hands are almost comically busy, Reeder points out, unlike the classic Greek poses of effortless ease. Moreover, for reasons unknown, two of the women are perched on overturned stools.

The routines of a dusty, windswept Scythian camp were certainly a world apart from the existence of a well-heeled urbanite in Athens or Babylon. Scythians spent their days and nights amid cattle, sheep, goats and, above all, horses. They drank fermented mare's milk, made mare's-milk cheese and ate horsemeat, along with other meat, domestic and wild. In lieu of bathing, Herodotus reported, Scythians crowded into tightly sealed woolen tents and tossed hemp seeds onto red-hot stones inside: "The Scythians enjoy it so much that they howl with pleasure." The historian seems to have been unfamiliar with the mood-altering properties of cannabis. The nomads also consumed

Opposite, from left: One of the 16 Greek-made bronze vessels found in a peat bog with the remains of a shipwrecked trader, this fifth-century B.C. hydria bears the image of a siren; gold boat-shaped earrings were derived from Greek prototypes, but modified to respond to Scythian taste. Above: A scene from a hammered gold gorytos cover reflects the interplay of Greek and Scythian artistry.

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The imposing image of a horned lion-griffin and a frieze of battling animals enliven a fourth-century B.C. sword and scabbard.

huge quantities of wine, drinking it uncut with water (which the disapproving Greeks called "Scythian style").

The role of women and family is largely a mystery. A tale passed on by Herodotus recounted how a marauding band of Amazons clashed repeatedly with a Scythian contingent near the Sea of Azov. Discovering their foes were female, the Scythians dispatched their most virile young horsemen to make love, not war. The goal, according to Herodotus, was to breed new warriors. The women were easily seduced but not so easily domesticated. Rebuffing the Scythians' marriage proposals, the Amazons explained: "We are riders; our business is with the bow and the spear. . . but in your country. . . women stay at home in their wagons occupied with feminine tasks, and never go out to hunt, or for any other purpose." Ultimately, Herodotus reported, the two groups rode off together and founded their own tribe. The women continued to dress as men and to hunt and fight. Although Herodotus' tale has long been taken as fiction, archaeologists in recent years have found the remains of a number of heavily armed Scythian women. Their weapons could be ceremonial, yet the graves are numerous enough, writes Esther Jacobson of the University of Oregon, a leading expert on Scythian art, "to allow one to conclude that there was in Scythian society a place for women to take up a warrior's role."

Archaeologists have found the remains of a number of heavily armed Scythian women.

In any case, woman's work in a Scythian encampment held its own challenges. Herodotus wrote in amazement of the nomads' approach to cooking a feast on the steppe. "This has called for a little inventiveness, because there is no wood in Scythia to make a fire with." Thus a butchered animal would be simmered using its own paunch as a pot and its bones as fuel.

The Scythians didn't always travel so light, especially in later years. As early as the fifth century B.C., Greek traders were venturing far into the steppe north of the Black Sea. The exhibition includes eight of the large bronze vessels uncovered by chance in 1961 in a peat bog along a tributary of the Dnieper. Greek in form and superbly ornamented, the containers were found with the remains of a capsized boat, hewn from the trunk of a massive oak, along with the bones of the boatman or trader. "These say a lot about the extensiveness of the Greek trade and the affluence of the Scythian customers," Reeder says. "You don't sail expensive things like these 300 treacherous miles upstream unless you're fairly confident they're going to be sold."

The Scythians' ever-growing possessions eventually undercut their mobile lifestyle. Inevitably, they began to settle down and intermarry with other groups. In the second century B.C. a new tribe of ruthless horsemen, the Sarmatians, swept across the steppe. In time, the displaced Scythians faded from history.

Although the Scythians' culture disappeared, their burial mounds, or kurhans, remained in Ukraine for millennia as mysterious holy sites. In place of grave markers, crudely carved stone figures stood at the top. Though the European steppe has now been sliced up by canals, factories and farms, thousands of these mounds still punctuate the table-flat Ukrainian landscape. The largest are the height of a six-story building and more than 300 feet across.

"The Scythians didn't just heap up whatever was around," Scott says. "They had layers of sod brought in, maybe to provide pasturage in the afterlife for the horses that were buried with their owners." Equine sacrifice was a staple of Scythian funerals. In one kurhan in 1898, archaeologists found the remains of more than 400 horses arrayed geometrically around the fallen warrior. The out-

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This ritualistic staff ornament with pendant bells was designed to appeal to the Scythians' predilection for sound and movement.

side perimeter of another tomb yielded enough bones and amphora shards to suggest a knockout wake for about 1,000 people. Some mourners suffered more than hangovers. Herodotus reported that the funeral of important Scythians included the strangling and co-burial of consorts and retainers. Though the Father of History's credibility has often been challenged—Aristotle himself called him a "legend-monger"—archaeologists have dug up support for many of his claims, including evidence of human sacrifice.

Many kurhans were looted almost immediately, perhaps by local peasants who'd been recruited to build them. Burial chambers, however, are hazardous sites. "Some of the tomb robbers weren't too clever and ended up part of the archaeological record," says Scott. With Scythian grave robbing a cottage industry by the early 1700s, Peter the Great ordered that looters be arrested and that the gold and other finds be added to the Russian imperial collections.

Methodical investigation of Scythian kurhans began only in the 19th century. The tombs have yielded not only gold but also pottery, wagons, remnants of clothes, even residues of cosmetics. With independence in 1991, Ukraine is looking to Scythian history, and that of the new nation's other legendary horsemen, the Cossacks, as it seeks to flesh out its own national heritage. These days, though, the government has little money for archaeological digs. "In Soviet times, there were more than 50 teams working in Ukraine on Scythian archaeology," says Denis Kozak, deputy director of the country's national archaeological institute. "For now, there are only two teams still working."

Wonderful finds continue to surface, nonetheless; a spectacular gold necklace and a pair of headdress pendants in the exhibition were unearthed only in 1998. Kozak and others in Ukraine and the United States hope the current tour will spark new interest in Ukrainian history and new support for Scythian archaeology. Herodotus wrote of a remote place called Gerrhi, where the richest Scythian tombs were said to be clustered. Some scholars believe Herodotus was misinformed. Others believe Gerrhi can be found. If the optimists are right, and the looters haven't gotten there first, look for a grander and even more dazzling exhibition of Scythian gold a few years hence.

The author, a regular contributor, wrote about American designers Charles and Ray Eames in the May 1999 SMITHSONIAN.

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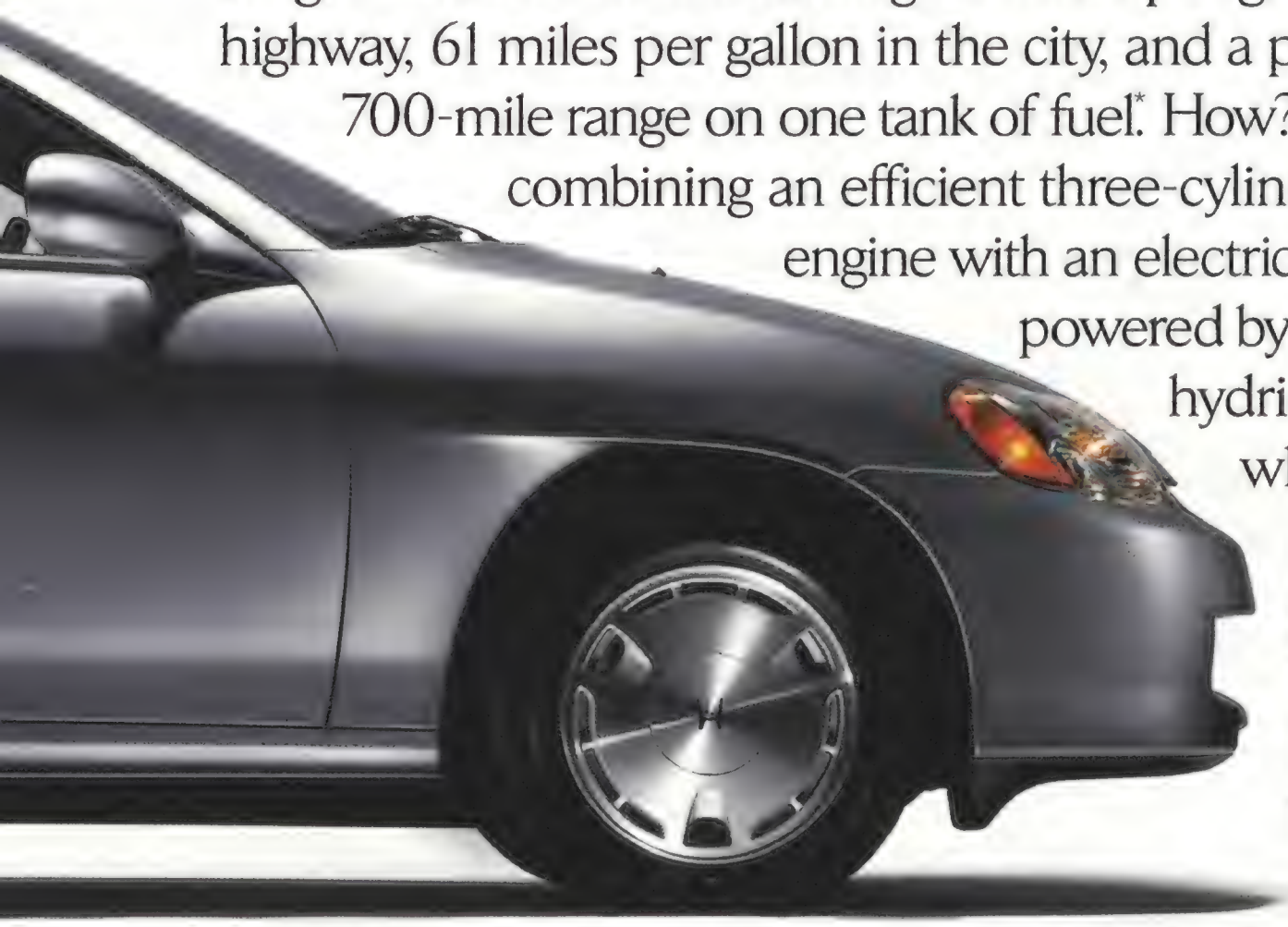

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A Noble & Absurd UNDERTAKI

THE FEDERAL WRITERS' PROJECT GAVE DEPRESSION-ERA WRITERS A SECOND CHANCE . . . AND AMERICA ITS FIRST COMPREHENSIVE SELF-PORTRAIT

BY DAVID A. TAYLOR

I'M STANDING ON MAIN STREET IN THE small Cass County town of Plattsmouth, Nebraska, nearly smothered by Midwestern charm, waiting. It's 7 in the evening and the September light is starting to fade from the tops of the century-old buildings across the street. Two long blocks are cleared of vehicles and lined with makeshift bleachers of two-by-ten boards mounted on cinder blocks. I stand with a guidebook under my arm; I see folks from around here, but no other tourists. Clusters of teenagers move up the block, chatting about who will be in the final parade of the Kass Kounty King Korn Karnival.

Before long, the street will be thick with the parade's ranks: at least six high school marching bands, from towns such as Weeping Water and Louisville, and Glenwood, across the river in Iowa; four African-American drill teams of dancers and percussionists from Omaha, 20 minutes to the north; color guards of American Legion veterans; a Humvee from the chiropractic association, with models of two human spines tied to the front fender; a full-dress skit of Keystone Cops and a convict spraying a fire hose into the crowd; a rumbling chorus of half a dozen 18-wheelers; and emergency vehicles ranging from ambulances to full hook-and-ladder rigs. Apart from the parade,

While photographer Arthur Rothstein captured the austerity of 1930s Nebraska, the American Guide (inset) painted a more hopeful and often irreverent picture.

N G

there is a Tilt-A-Whirl, a "Titanic" ride, and Cow Chip Bingo.

The festival is a living tradition, having changed little since the first King and Queen Korn were crowned in 1935. The "kornation" of the royal couple is launched with a presentation of colors by the Junior ROTC of Plattsmouth High, a recitation of Johnny Cash's "That Ragged Old Flag" by 83-year-old Wilbur Hubbell, who's dressed in a flag-red sport coat, and the king and queen's five pint-size attendants, decked in green capes emblazoned with glittery ears of corn. This is not Disney's America, it's Dorothy's.

Through their stories, the guides show the organs and tissues of a place as if it were a body in motion.

If not for my guidebook, I wouldn't be here. The mention of King Korn on its events calendar is the only reference I've seen anywhere to the four-day festival. To a traveler jaded by famous buildings and fine restaurants, my guidebook repeatedly presents a refreshing eyeful of sites and stories.

The odd thing is, the book I hold in my hands is more than 60 years old. Published in 1939, *Nebraska: A Guide to the Cornhusker State* is part of the American Guide Series assembled by the Federal Writers' Project, under the Works Progress Administration (WPA). My copy looks more like a textbook than a travel lure: the dusty blue hardback smells of bookshelf. A Nebraska road map is neatly folded and tucked in a yellowed envelope, which is bound into the 424-page volume. The small typeface discourages the eye; it sometimes drops down to 6-point type, relieved only by a smattering of black-and-white photographs. A look at the contents page doesn't shake the course book impression: headings include "Agriculture and The Farmer," "Ethnic Elements" and "Literature." A baker's dozen of tour routes are advertised with bland directness: "North Platte-Maywood-McCook."

Still, for a trip down U.S. 75 along Nebraska's eastern edge (Tour #1 in the guidebook), the 1939 guide beats out *Fodor's* and *Lonely Planet*. Fodor-wise, this is a dry stretch. Chicago's brace of skyscrapers rises about 450 miles east; the Badlands and Mount Rushmore lie about the same distance to the northwest; the drama of the Rockies is more than 500 miles away. But a ride along Tour #1 puts me directly in contact with some colorful local history: there's Blackbird Hill, visited by Lewis and Clark, where Blackbird, the "cruel and tyrannical" chief of the Omaha, is buried along with his horse; Robber's Cave in the banks of the Missouri from whence robbers would jump unsuspecting fur traders as they floated their season's catch down the river; John Brown's Cave, a stop on the Underground Railroad, which features a 30-foot tunnel through which slaves used to crawl from a secret room underneath an old log cabin to Table Creek.

Highway 75 looks much as it did 60 years ago: two lanes run parallel to the Missouri River, which separates Nebraska from Iowa and Missouri, and gently sweeps through the wooded bluffs of northeastern Nebraska and into the open plateau country as one drives south. At its midpoint through the state, the road grudgingly widens to four lanes to accommodate the city traffic of Omaha, but soon resumes its two-lane habit near Plattsmouth. No exit ramps separate the driver from the farms and small towns that line the route, so the speed limit frequently dips to 25 miles per hour. Today, most north-south traffic takes Interstate 29, just across the Missouri River. One could cover the 200-mile stretch of Tour #1 in a few hours. With the WPA guide, I take two days; three including Omaha.

The route reveals what the American Guides do best. Unlike slick modern guides that preselect your itinerary, the *Guide to the Cornhusker State* stops at each town and sifts through its stories. An example: new guides are mum about Omaha's Capitol Hill. Look in the WPA guide, however, and there's an account of the first July Fourth celebration on this hill in 1854 that's worthy of a Buster Keaton film. It starts with someone firing off an Independence Day salute with two blacksmith anvils:

"The anvil salute consisted of ramming the hole in the top of the anvil with powder, inserting a fuse, turning the anvil upside down and lighting the fuse. The resultant blast sent the anvil more than 100 feet in the air. . . . The report of the anvils attracted a band of Indians who were camping at Sulphur Springs. The women and children were frightened and the entire party hurried to their wagons and drove pellmell to the ferry landing. They escaped unharmed."

Nuggets like this are the heart of the American Guides. They knit together what Jean Fitzgerald, chairman of a shipping company in Fort Lauderdale, Florida, calls "anatomies" of our cities and states: through their stories, they show the organs and tissues of a place as if it were a body in motion. Fitzgerald got hooked on them after picking up the American Guide to Washington, D.C., where he grew up; he went on to collect a complete set.

Fitzgerald is not alone. In the past decade the guides have been taken up by folks such as Carol Ahlgren, an architectural historian for the National Park Service in Omaha, who describes herself as a "New Deal junkie." Ahlgren, who joined me at the King Korn festival, has used the WPA guide in travels throughout Nebraska. The American Guide to Galena, Illinois, written mostly by Nelson Algren, fetches from $125 to $150 on Internet auction sites. Recent years have seen a wave of reissues of the WPA guides, as well as a 1985 collection of excerpts enti-

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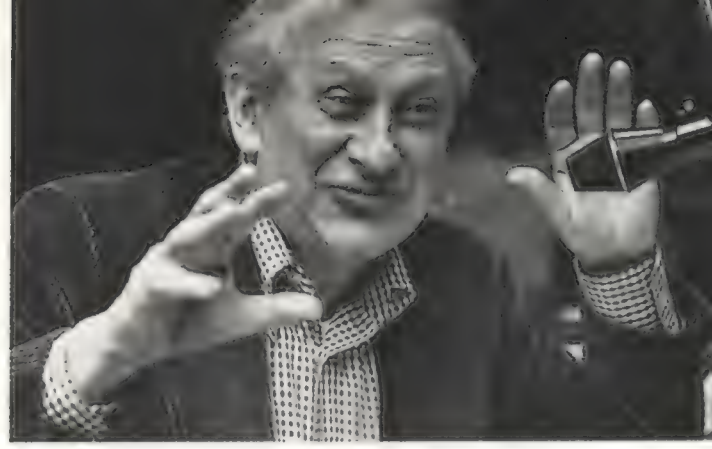

The WPA's Federal Writers' Project jump-started the careers of many now-famous writers, including (clockwise from left): Nelson Algren, Studs Terkel, Zora Neale Hurston, Richard Wright.

tled *Remembering America*. New Press publisher Andre Schiffrin plans to publish another half-dozen books of material from the Writers' Project, including oral histories and related photographs.

The American Guides—one for each of the 48 contiguous states and U.S. territories, plus guides for selected cities—remain the most prominent face of the Writers' Project. They were America's first detailed and comprehensive self-portrait: a multifaceted look at America by Americans, during one of the greatest crises in the country's history. But the "Project," as it was called, also produced an archive of oral histories and interviews that reveals Americans in many walks of life, and includes interviews with 2,000 former slaves. The Project's writers churned out more than 300 publications between 1935 and 1939, including 100 full-sized books on topics from zoology to ethnic history.

But it's the guides that received the most attention. "This is not the well selected, carefully sculptured mosaic of formal history or geographical description," wrote Frederick Gutheim in the *Saturday Review of Literature*; "it is the profuse disorder of nature and life, the dadaist jumble of the daily newspaper. It gets in your blood and sends you crowing from oddity to anecdote, from curiosity to dazzling illumination of single fact." This was an oftentimes irreverent portrait of America that revealed the eccentricity, humor and ingenuity of her people. As Jerre Mangione notes in *The Dream and the Deal*, anything was fair game: from a colorful

The Writers' Project did not rise out of a patriotic desire to celebrate America, but lay rooted in poverty.

biography of millionaire John D. Rockefeller, which included the doggerel he had typed up and given to his visitors, to the exploits of a jovial but homicidal Delaware innkeeper. Paired with the 77,000 black-and-white images taken by photographers from the Farm Security Administration, the Writers' Project provides an insightful and provocative look at America.

My tour along U.S. 75 starts a couple of hours north of Omaha, in Dakota City, a small town on the banks of the Missouri River. Like a landmark to endurance, the 1870-vintage county courthouse is still painted yellow, as described in the 1939 guide. It was at this point that Lewis and Clark hauled their canoes onto shore in August 1804. Dakota City was also home to a story à la *Primary Colors*, only a century earlier. Father Martin, a local journalist and part-time missionary in the late 1800s, became disgusted with local politics and exacted revenge by satirizing town luminaries in thinly veiled fiction under the title *The Conflict: Love or Money?* His enemies appeared as easily identifiable characters, including Martin's rival editor, Atlee Hart, who became Atlee Heartless. The series roasted Dakota City elders for nearly a decade. "There were no libel laws, and the editor died of natural causes," the guide reports almost gleefully.

The local power company radiates promise in Omaha, a place, notes the guide, that hasn't lost its surprise at becoming a big town.

The Writers' Project itself faced heavy skepticism from both ends of the political spectrum. Conservatives said that "WPA" meant "We Poke Along," while one editorial warned that pencil leaners would be added to the ranks of WPA shovel leaners. Radicals decried the Project as hush money designed to preempt pamphlets about the broken capitalist system. Many questioned why *any* kind of writing deserved public support. In many states, introducing oneself as a "WPA writer" could raise hackles and end an interview on the spot.

Some writers, too, regarded the WPA as a last resort. In later years, John Cheever would rarely talk about his experiences with the WPA, but in 1938 he was poor enough to meet the Project's poverty standard. He spent that summer as a junior editor in the Project's Washington, D.C. headquarters, which was housed in an old theater once home to prizefights and dog shows. Cheever disliked editing the American Guides, hated Washington, and longed for New York City. In the evenings he would go back to his boardinghouse on nearby 20th Street, where he would suffer the taunts of an elderly lodger at dinner who mocked WPA workers. When she asked him to pass the gravy, he feigned deafness, as if paralyzed by the feelings of dislocation and humiliation—feelings he would give years later to a character in his story "The Swimmer." "He was laughed at, jeered at," wrote Cheever about his protagonist, who stood forlornly and nearly naked beside a highway, "and he had no dignity or humor to bring to the situation."

In its time, the Writers' Project was disparaged as a charity for mediocre talents. Yet it launched some of the past century's greatest writers: Saul Bellow, Ralph Ellison, Richard Wright, Margaret Walker and John Cheever. It also served as a life raft for many published writers whose careers had been swamped by the Depression, including Conrad Aiken and Nelson Algren. "Had it not been for [the Writers' Project] the suicide rate would have been much higher," reflected Algren, a onetime door-to-door salesman and Chicago writer whose 1949 novel *The Man with the Golden Arm* won the first National Book Award. "It gave new life to people who had thought their lives were over." Algren wasn't being melodramatic.

Just getting the basic tools of the writing trade was a trial. At the Depression's low point, Algren was riding freights through West Texas. He found material for a novel in the stories of his fellow hoboes, but he himself lacked a typewriter for recording them. Standing on the roof of an eastbound freight from El Paso, he spotted buildings on a hillside that looked like they might be a college campus. When railroad bulls pulled him off the train 90 miles down the line, Algren hitchhiked back to the town and discovered

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Omaha's Union Stockyards, reports the Nebraska guide in 1939, contain 4,000 livestock pens spread across 160 acres.

MARION POST WOLCOTT/CORBIS

the Sul Ross State Teachers College, which contained a room full of unused typewriters. Algren received permission to use one and became a sort of transient writer-in-residence for the rest of the fall. His attempt to take the typewriter when he left landed him in jail for a month (and gave him more gritty subject matter—in every novel Algren ever wrote, someone goes to jail).

The Project provided an important safety net for those who met its poverty requirement. Perhaps even more than a prized meal ticket, however, it gave them contact with other writers, who would often influence their writing for years to come. The experience left them with stories of one of the most chaotic publishing ventures in American history, involving some 6,700 employees at its height, as well as 12,000 volunteer readers and editors. The poet W. H. Auden called it "one of the noblest and most absurd undertakings ever attempted by any state." The Project did not rise out of a patriotic desire to celebrate America, but lay firmly rooted in its poverty. The Depression's bleakest days had passed, but families still slept on park benches and in stairwells. Across the countryside, thousands of families lost their farms in a foreclosure epidemic that sparked desperate protests. The economic hurricane didn't spare writers: by 1935, a quarter of the U.S. publishing industry was out of work. Women and minorities were especially hard hit. President Roosevelt's efforts to jump-start the economy included the 1935 Emergency Relief Act, which authorized the Works Progress Administration, the most ambitious of all relief efforts during the Great Depression. Within the WPA's broad plan for public works, the Writers' Project was established and offices were set up in every state and selected cities. In the grim post-Depression landscape, these became oases where all brands of writers sought refuge—conservative and radical, novice and veteran, white and black, male and female.

The Project's Chicago office, an old warehouse building

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By 1938, Omaha's streets were ordered and cars commonplace, but in 1910, reports the guide, daredevil road racing was the rage.

on McClurg Court, exemplified this great engine of chaos. The big open room where writers met between assignments held nearly a hundred employees. One spring day in 1936, an uncertain, 20-year-old Margaret Walker entered. Born in Birmingham, Alabama, she had moved to Chicago with her parents and had just received her degree from Northwestern University. She had to fudge on her age to get a job with the Project. As she stepped off the elevator that day, Walker encountered Richard Wright, the man who would become her mentor as a poet. Looking across the crowded office over the clatter of typewriters, Walker could see Nelson Algren flirting with the young secretaries, and, at the far end, the bustle of the Project's radio division.

Years later, Walker recalled that atmosphere as much more than chaos. The WPA fostered "what nobody believed was possible at that time—a renaissance of the arts and American culture," wrote Walker, "and some of the most valued friendships in the literary history of the period." For her and others, the Project ended the "long isolation of the Negro artist." Walker herself would become a matriarch of African-American letters, winning acclaim for her 1942 book of poetry *For My People* and her 1966 novel *Jubilee*. In 1973 she would organize a landmark conference that launched a new generation of writers, including Alice Walker (no relation), author of *The Color Purple*. The Project's political atmosphere changed Margaret Walker's writing markedly, "from the very romantic and sentimental type of poetry to a very realistic and factual type of poetry," she admitted. "I was very conscious of making that change."

Studs Terkel landed at the far end of the Chicago office, in the radio division. Now a master of the radio interview and author of a dozen books, including *Working*, Turkel honed his writing skills at the Project by crafting profiles of famous artists—Daumier, Van Gogh and George Bellows—for broadcast on WGN Radio. Working with curators at the Chicago Art Institute, he and his coworkers typed scripts and coached actors for an hour-long show broadcast each week. When the pace slackened, he loitered on the print side of the office with his new friend Nelson Algren. Terkel and his radio cohorts would slip out with Algren to the nearby Arena bowling alley to knock down pins at 20 cents a line.

Opportunities were plentiful in the Project's smaller offices as well. In Nebraska, editorial duties fell to a young man with no editorial experience. Born on a farm in Cass County west of Plattsmouth, Rudolph Umland had lived both as farmer and as hobo, having traveled some 12,000 miles by boxcar in the Depression's early years. He got by as a janitor, farmhand, dishwasher, logger, longshoreman and day laborer before riding a freight back to his father's farm in 1932 (one of an estimated 200,000 youths on the rails that year). After several years of farm chores, Umland was ready to wander again, but a college professor in Lincoln told him, "It's too damned cold to ride in a boxcar." He

JOHN VACHON/CORBIS

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One man told Project employee Ralph Ellison about a black man who made himself invisible.

pointed young Rudy toward the state's Project office. Umland was hired.

Umland later recalled that the Project "was a challenge greater than nailing a freight on the fly." In a memoir published in 1997, Umland described the sounds of the Lincoln office, with its staff of eight housed with hundreds of other WPA workers in an open warehouse: "The staccato rat-tat-tat of over a hundred typewriters, voices barking out dictation, clerks opening and closing metal file cabinets, ringing of telephones . . . filled the room with a confusion that was little conducive to writing." From the frenetic atmosphere emerged some shell-shocked prose. To fix the problem, an editorial board was created, which included rewrite editors, a tour editor, a cities' editor and a managing editor. Umland urged the Lincoln researchers, most of whom were former schoolteachers steeped in the city's moral

A 1938 flophouse hints at Omaha's past, a place "where whisky shops the livelong night," reports the Nebraska guide.

virtues, to separate fact from preconception and gather lively material. When the Lincoln city guide appeared in 1937 with a price tag of 25 cents, it became a local best-seller, winning the praise of many newspapers that had expected to savage it.

Umland's experience in the Lincoln office also points up the contributions of many in the Federal Writers' Project who never gained national fame. After the Project he published stories and wrote book reviews for the Kansas City newspapers while working for the Social Security Administration. He died in 1993.

Like several thousand others in the Project's oral history effort, Ralph Ellison was hired to record people's stories. The work fascinated him. The soon-to-be-famous black novelist had arrived in New York just months before the New York office opened, and spent many nights on park benches. When he joined the Project, he would recall later, he felt like a professional writer for the first time. He embraced the challenge of finding interesting individuals to interview, cornering people in bars, on Harlem street corners and in apartment buildings. One man, Leo Gurley, told him a remarkable tale about a black man who could make himself invisible. Who knows how this fed Ellison's imagination six years later as he started to write the book *Invisible Man*, his landmark and picaresque journey through America's race relations at midcentury. Ellison later admitted that he had intended to write a war novel, but his plan was hijacked by an insistent, disembodied voice—"a blues-toned laugher-at-wounds who included himself in his indictment of the human condition."

Nearly 10,000 unpublished WPA interviews sat for decades, uncatalogued, in a small, airless room in the Library of Congress known as the Buzzard's Nest. There they remained in obscurity until the late 1970s, when writer Ann Banks waded through them and published a selection in *First-Person America*. More than 2,900 of these interviews can be found on the WPA Life Histories section of the Library of Congress Website (http://lcweb2.loc.gov/ammem/wpaintro/wpahome.html).

On-line, anyone can select a state from a map of the country, find out how many interviews are archived for it, and narrow the search using, for example, names of towns. For Nebraska, there are the recollections of a farmwife in Dakota City, songs of a hobo in Lincoln or a cattleman's memory of driving stock to Omaha. Also available are photographs of life during the period, taken by field photographers with the Farm Security Administration.

In south Omaha I walk to the brick livestock-exchange building and peer into the heavily paneled lobby, which is locked up. The guide describes the building's atmosphere as incongruous: trading technology is "as modern as tomorrow, [yet] something of the old West seems to linger about the place. Talk of the range is heard in the ornate lobby, and bronzed cattlemen frequent the bar." After continuous operation since the 1800s, the nearby sea of livestock pens, the world's largest stockyard, has just shut down. The business is moving to Iowa. My face pressed against the glass, I feel the change that comes at the end and beginning of things, and Rudy Umland looking over my shoulder.

When the guidebooks appeared in the late 1930s, even skeptics praised their portrait of America. Alistair Cooke, writing in the *Times* of London, predicted that "some

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Unpaved and straight as an arrow still describes the majority of state roads in Nebraska, each arranged on a grid system of one-mile squares.

future American generation may well marvel at the civilization recorded by a small library of Government sponsored volumes in those turbulent years between 1935 and 1939." In a note to the Project's director, Henry Alsberg, Cooke added, "I hope to buy, beg, steal, annex, or 'protect' a complete library of the guides before I die."

Nevertheless, the Writers' Project became the target of anticommunist zealots and critics of the New Deal as the country braced for war. By 1938, a Texas congressman and demagogue named Martin Dies was earning front-page headlines after he called Project administrators to testify in front of his newly formed Committee to Investigate Un-American Activities. The Project lost federal funding in 1939, and was virtually shut down. State offices kept residual activities limping along until 1943, when the program officially folded.

Apart from its musty publications, the Project's real legacy may rest in the later work of its writers, on whom it imprinted the voices of meatpackers, farmers, jazzmen, immigrants and small businessmen. Studs Terkel has mined those voices for years, and as Ann Banks notes, parts of Nelson Algren's *A Walk on the Wild Side* seem to echo his interview with a Chicago prostitute. Some of Zora Neale Hurston's work for the Florida Project was published only in the past decade, and last January, the *Washington Post* reprinted Margaret Walker's poem "For My People," which she wrote when she was a 22-year-old on the Project. She had it half-finished and wanted feedback from another writer. Richard Wright had moved to New York, so she took the poem to Nelson Algren's house. Then she went home and completed the powerful last stanza. It seems to fill the air with the muscular figures of a WPA mural:

> Let a new earth rise. Let another world be born. Let a bloody peace be written in the sky. Let a second generation full of courage issue forth; let a people loving freedom come to growth. Let a beauty full of healing and a strength of final clenching be the pulsing of our spirits and our blood. Let the martial songs be written, let the dirges disappear. Let a race of men now rise and take control.

David A. Taylor's story on the history and harvesting of Brazil nuts appeared in April 1999.

JOEL SARTORE

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At MASS MoCA, in the former Sprague Electric factory, Ruth Bernardi, right, and Esther Poplaski size up a corner of *The 1/4 Mile or 2 Furlong Piece* by Robert Rauschenberg.

BY BRUCE WATSON

PHOTOGRAPHS BY FREDERICK C. CHARLES

A Unique Home for Cutting-edge Art

MASS MoCA, the nation's newest and largest center for the contemporary arts, has brought a blue-collar New England town back to the future

LIKE MANY WORKERS ON HER ASSEMBLY LINE, RUTH BERNARDI DIDN'T KNOW MUCH ABOUT art but she knew what she liked. She was partial to Norman Rockwell, especially his magazine covers. But while raising five children, Bernardi didn't have much time for art or the museums that framed it. Every weekday for 42 years, she punched a clock. Filing past an iron gate into a massive maze of buildings, she joined a stream of employees heading for the next shift at Sprague Electric in North Adams, Massachusetts. During World War II, Bernardi riveted and brazed bombshells. Later she assembled transistors, diodes and capacitors ultimately destined for the space program. Her pay was meager, raised only by hard union bargaining and occasional strikes. Others grumbled, yet Bernardi, a meek, bespectacled woman, was glad to have a job. It made her proud to work alongside her husband, Bucky, to earn her 5-, then 10-, then 20-year pins. And like an artist, she enjoyed working with her hands.

In 1985, a few years after Bernardi retired, the Sprague plant closed and 1,700 workers lost their jobs. For the next decade, the plant sat empty, as lonely as some brick facade in an Edward Hopper painting. But now life has returned to the factory nestled in the Berkshires. Instead of assembly lines, its cavernous spaces host huge

sculptures and paintings. Where machines rumbled, the soft footsteps of dancers tread. Once an icon of industry, the old plant is now filled with art of the Information Age. With a name that sounds like a cup of coffee and reads like a misprint, MASS MoCA has gone back to the future.

Suddenly last summer, the hottest place to see cutting-edge art wasn't in SoHo or San Francisco. On May 30, the nation's largest center for the contemporary arts opened in a New England town of steeples and struggling stores, where two-hour downtown parking costs a quarter. After a dozen years on the drawing board, the Massachusetts Museum of Contemporary Art had realized its quixotic dream. Theater, dance, concerts and art films began drawing crowds. Startling light shows cast shadows across faded factory walls. And 19 spacious galleries hosted the brilliant assemblages of Robert Rauschenberg, the blazing colors of James Rosenquist and the flashing neon of Bruce Nauman.

Only a few years ago, North Adams' downtown was ghostly. Its vacant factories stood far from the nearest interstate or info highway. But MASS MoCA has made North Adams another must-see for cultural tourists in the Berkshires. Museum officials are counting on 100,000 visitors a year, and that's just for openers. Over the next decade, the museum hopes to expand to fill its 13 acres of industrial space with contemporary art. Or, if plans go awry, it may not. But already, as people come and go, talking of modern-day Michelangelos, North Adams residents are shaking their heads in wonder. After a century of surviving on raw industry, this city of smokestacks is now on the avant-garde art circuit.

The first thing you see upon entering MASS MoCA is a landscaped courtyard. Six flame maples front a block-long facade lined with windows. But nothing is grounded in tradition at MASS MoCA. These trees hang upside down, 35 feet aboveground. The installation, entitled *Tree Logic*, suggests that at this museum, logic is trumped by vision. *Tree Logic* creator Natalie Jeremijenko sensed the vision when she first came to MASS MoCA. "They're committed to exploring unproven ideas here," Jeremijenko told me as she stood gazing at her trees. Over the next five years, Jeremijenko expects her upside-down trees to defy gravity, producing new growth that will reach toward the sun. It makes perfect sense if you know trees, she said. But a ways down the street at Lady Di's restaurant, upside-down trees were the talk of the breakfast shift.

Down the street at Lady Di's restaurant, upside-down trees were the talk of the breakfast shift.

Just a few days after the North Adams *Transcript* profiled Jeremijenko, the artist stopped into Lady Di's. Some diners averted their eyes, an old Yankee custom when strangers come to these parts. But others approached her to discuss the logic of trees. "We talked about what the trees might do and how long it might take," the artist said. "It made me glad to be involved in art that isn't happening at the center of New York City. I love the relationship between MASS MoCA and the local community." Lady Di herself, Dianna Richardson, heard a lot of jokes about the town's topsy-turvy trees. Yet she is optimistic about MASS MoCA. "I think it'll be big, I really do," said Richardson, who last summer sold her restaurant for more than she expected, thanks, she told me, to MASS MoCA's drawing power.

Converting an old factory into a modernist museum hasn't always been North Adams' idea of progress. The plan was the brainchild of Thomas Krens, former director of the Williams College Art Museum in nearby Williamstown and now head of the Solomon R. Guggenheim Museum in New York. With characteristic precision, Krens recalls exactly where he was when the idea came to him. November 14, 1986, 7:30 P.M.: driving from Cologne to Frankfurt, Germany, Krens had just visited a factory turned art gallery and was thinking about the future of museums. Like their contents, museums were becoming relics. "The museum was an 18th-century idea—an encyclopedia—in a 19th-century box," Krens is fond of

MASS MoCA's resourceful director, Joseph Thompson (above), has brought such innovative works to the museum as Natalie Jeremijenko's provocative *Tree Logic* (opposite).

saying. "Then the encyclopedia got too big for the box. And more and more art was being made on a scale irrespective of where it could be shown."

After returning to pristine Williamstown, Krens drove a few miles down the road to gritty North Adams. There he toured other abandoned factories before learning of the Sprague plant. Donning a hard hat and walking through the sepulchral site, Krens

The buildings seemed more hospitable to blueprints than works from someone's blue period.

tures and installations artists were making in their warehouse studios. "No one could have planned this place," Krens said. "No one has that perverse an imagination." But making MASS MoCA a reality took more than one curator's vision. It took the

Joanne Saltamartini, who worked at Sprague for years, pauses by James Rosenquist's *The Swimmer in the Econo-Mist* at MASS MoCA. "Nobody could get bored here," she says.

was amazed. The complex included 29 buildings totaling more than 720,000 square feet. Prying open a stuck fire door, he entered one building 340 feet long and 60 feet wide, by itself bigger than the entire display space of the Guggenheim at the time. Other buildings, though obstructed by pillars and littered with debris, seemed perfect for the giant sculpkind of hope trees demonstrate when they turn toward the sun.

Built for industry, nothing about the old Sprague plant remotely resembled an art museum. Beneath its lofty clock tower, the buildings seemed more hospitable to blueprints than works from someone's blue period. Yet now that it has been renovated, the complex has a strange beauty and integrity. For all its art, first-time visitors may find architecture the museum's main attraction. From its rear courtyard, MASS MoCA looks like a medieval city. Overhead walkways span the stretches between buildings. Catwalks skirt four-story rooftops. Wandering inside, you feel as if the march of time has been derailed. Voices resound through the halls, as if there's still work to do, like rolling steel off the assembly line. But now steel is sculpted into abstract art, and every 15 minutes the sound of bells from the clock tower echoes through the galleries, ringing and ringing as if calling the day shift to work.

Growing up in North Adams, John Barrett heard Sprague's bells every day. As a boy during the 1950s, he saw workers pour out of the plant each afternoon. They shopped at five-and-dime stores and ate at local restaurants, one of them run by Barrett's father. In the 1960s, urban renewal claimed the family restaurant. When Sprague shut down, downtown businesses closed their doors. Then shortly after Barrett quit teaching elementary school to become mayor, along came this college professor wanting to turn Sprague into an art museum. "I thought Krens was crazy," Barrett said. "I couldn't see how contemporary art would fit an old factory." Yet the Reagan-era boom had bypassed North Adams. The city's unemployment rate was 14 percent. Around town, weathered signs hung above boarded-up storefronts. The Sprague complex, just two blocks from downtown, festered like an open sore. "I'm a blue-collar mayor from a blue-collar city," Barrett told me. "I wouldn't cross the street to see this kind of art, but we needed a change of direction and I decided this might be the catalyst."

In 1988, when Krens left to become director of the Guggenheim, he used his connections to lure top consul-

tants to North Adams. After an initial design competition, architects Frank Gehry, Robert Venturi, David Childs and Simeon Bruner planned a museum complex that included a hotel, a convention center, shopping outlets, condos and restaurants. Opening day was set for the fall of 1993. On the fringe of the old factory, MASS MoCA opened offices. There names of artists—Ellsworth Kelly, Robert Morris, Richard Serra—floated like promissory notes through late-night planning sessions. But real money proved harder to come by. After $35 million for renovations cleared the state legislature, Massachusetts dove into a steep recession. Upon taking office in 1991, Governor William Weld faxed MASS MoCA's director an order freezing all funding until further notice. While the museum's board downscaled its plans, the buildings decayed. Roofs leaked. Floors rotted and fell through. The idea of turning a factory into a museum seemed crazier than ever. But those who remembered what Sprague had meant to their town were ready to buy any dream of its resurrection.

North Adams has always been a truncated town. Its streets are sectioned by hills; its downtown is bisected by the Hoosac River. Older residents still speak of the days when the Hoosac ran red or green. The river's hue depended on the dye being used by the Arnold Print & Dye Works, which built the plant along the river's fork after the Civil War. The print works was still tinting the Hoosac during the Depression when Esther Poplaski, then 16, got a job in the small Sprague plant upriver. "I started at 24 cents an hour," she told me. "We thought that was a lot of money then." When the print works closed in 1942, Sprague moved into the complex, bringing along Poplaski and others, including her friend Ruth Bernardi and 18-year-old

Names of artists floated like promissory notes through late-night planning sessions.

welder Art Santelli. More than a half-century later, while power tools buzzed through galleries in preparation for MASS MoCA's opening, the three sat in the front office recalling the days when just making a living was an art in itself.

"It's something new for me," says Art Santelli of the museum. Hired at Sprague as a welder in 1941, Santelli is contemplating John Chamberlain's *Dooms Day Flotilla*.

Digging into a large envelope, Bernardi proudly showed me old photographs of company dinners. "Everyone brought stuff to the dinner and we went bowling after," she remembered. Poplaski recalled big holiday parties during World War II, when almost all the workers were women. Before the war was over, Sprague had made the trigger for the atomic bomb and other electronics integral to the war effort. On V-J Day, workers swarmed through the streets hugging each other. But peace brought harder times, including three strikes. "We lost our shirts on that first one," said the feisty Santelli, whose memories aren't all pleasant. Yet day after day, whether griping about pay or glad to have a steady salary, they went to work.

"It was a good place to work," Bernardi said.

"It was the only place to work," Santelli countered. "We had no choice."

"I raised five kids on my salary."

"Yeah, but the pay was so low you and Bucky both had to work."

"We had our good times and our bad," Poplaski said. "And a lot of parties when the boss wasn't around."

MASS MoCA's main courtyard comes alive with the sound and light of the Puerto Rican band Viento de Agua at a Latin dance party held at the museum last July.

When state funding dried up, memories helped North Adams rally around MASS MoCA. Supporters went up and down Main Street asking the few remaining businesses for help. Though the town's per capita income ranked 349th out of 351 statewide in 1990, businesses and private citizens in the area pledged $1 million to MASS MoCA. Freshman Republican state senator Jane Swift (now Massachusetts' lieutenant governor) had grown up in North Adams and was enthusiastic about the project. Armed with such support, museum director Joseph Thompson, a serene Midwesterner, invited the governor to tour the site. Weld, a curiously cultured politician who later wrote a critically acclaimed novel, was taken by the place, and challenged MASS MoCA supporters to raise $2 million more. When they did, he told them to double it and then double it again and, by the way, to come up with some art to put in the place. By 1995, MASS MoCA had $8 million in promises, and partnerships with the Guggenheim, the Sterling and Francine Clark Art Institute in Williamstown and the Berkshires dance venue Jacob's Pillow. The governor then released the state's contribution, more than $18 million. A decade after MASS MoCA was conceived, renovation of the vast complex began.

Many contemporary artists relish serendipity, making collage and sculpture from "found objects." But for architect Simeon Bruner, designing MASS MoCA was like "doing architecture with found buildings." First, Bruner and his firm took down two buildings to open up courtyards. Then they went to work inside. Using walls as mere shells, they ripped out second and third floors to create soaring galleries. They rebuilt roofs, supporting them with 19th-century king-post trusses held in place by visible beams and cables. New walls were painted white, but old brick was scraped, and sealed as if in a time capsule. Peeling paint, heating vents and plumbing remained in all their glory. And while many museums seem cloistered, MASS MoCA overflowed with natural light. With concrete floors abutting polished hardwood, rustic courtyards and abstract art at every turn, MASS MoCA is a hybrid of past and future. It's as if some crazy curator had mounted an Andy Warhol inside an ornate frame that had once held a Winslow Homer.

Filling such a space might have daunted lesser curators, but Thompson knew just where to look. The Guggenheim had purchased more than 200 works from Italian count Giuseppe Panza di Biumo. The Panza collection included Dan Flavin's fluorescent sculptures, Donald Judd's stark metal boxes and other minimalist art. Because MASS MoCA will operate without a net—having no permanent collection or endowment—Thompson secured loans from the Guggenheim, the Philadelphia Museum of Art, the Dia Center for the Arts in New York and individual artists. Then he went searching for something to fill Building Five, the football field of space Thomas Krens had stumbled upon. Thompson landed a prize loan when '60s art icon Robert Rauschenberg came to North Adams. "This wasn't even a museum when I first visited," Rauschenberg told me. "It was a pile of rubble. We walked through in hard hats, going up and down rusty stairs in the dark. My legs were still sore days later, but I saw the potential." Rauschenberg agreed to move his *1/4 Mile or 2 Fur-*

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long Piece from the Guggenheim in Bilbao, Spain, to MASS MoCA for a time. More than 800 feet of the gorgeous, semiotic work—signs, transfer-printed images, newsprint, collage and found objects—soon wrapped around the walls of the building where the Arnold Print & Dye Works had hung tinted fabrics to dry. "This building is history," Rauschenberg said while watching his work be installed. "It's as exotic in its own way as the Guggenheim in Bilbao."

"Multimedia" is the latest watchword in contemporary art, so Thompson lined up multimedia arts. MASS MoCA includes a 650-seat theater and an outdoor courtyard for concerts and movies. A given month's schedule may feature Saturday morning cartoons for kids, an evening salsa dance, a film by Sergei Eisenstein, a concert by Joan Armatrading and a modern dance performance. Yet as its 19th-century buildings play host to today's art, Thompson sees MASS MoCA as a metaphor as well as a museum. "MASS MoCA is endowed with a profound sense of place," the director said. "The buildings are beautiful, but there's a larger story here. It's an American story, about the country moving from heavy industry to lighter industry and finally to information. The Arnold Print & Dye Works made a basic product. Sprague's product depended more on ideas, and MASS MoCA is entirely about ideas. It is a path taken in many towns, and we can tell that here with real stories."

Last Memorial Day weekend, many who filed through the gates of MASS MoCA had their own real stories to tell. Not your typical art crowd, this one was filled with former Sprague workers who had come for MASS MoCA's opening day. Younger art lovers, pierced or ponytailed, were outnumbered by gray-haired women and stoop-shouldered men in baseball caps. Hands pointed to buildings where they once toiled. "And that used to be . . ." "Over there was . . ." For 66-year-old Joanne Saltamartini, opening day was a family affair. Seated in a courtyard with her daughter, she pointed out the shipping-and-receiving station where she had met her husband and several buildings where all nine of her siblings and both her parents had worked. Following speeches and ribbon cutting, Saltamartini joined the crowd entering the museum to see what art had done to the former workplace. "This used to be all machinery in here," she told her daughter as they walked through the lobby. "It was all dingy and smelly. A little bit of paint works wonders." Then, shuffling along with the flow, she came to the first gallery.

Artists Shelley Eshkar, Paul Kaiser and dancer/choreographer Bill T. Jones discuss their video work *Ghostcatching* at a special symposium.

Beneath a towering ceiling hung James Rosenquist's *The Swimmer in the Econo-Mist*. In three 12-foot-high paintings stretching more than 160 feet in length, Rosenquist juxtaposed images ranging from Picasso's *Guernica* to a Special K cereal box, each distorted as if in a funhouse mirror. But Saltamartini wasn't looking at the art. Gazing overhead to the iron trusses beneath the 40-foot ceiling, she uttered, "Oh, my goodness. It's just fabulous." On through the galleries, the crowd saw MASS MoCA's past rub elbows with its future. One gallery held John Chamberlain's *Dooms Day Flotilla*, several twisted steel sculptures resembling a car wreck. "Maybe I'd better keep my '83 car," Saltamartini joked. "It might be worth a lot of money someday." And in a walkway outside, some visitors heard themselves. Lest the past fade, sound artist Ronald J. Kuivila has preserved it in his *Visitations*, an installation featuring a sound collage of industrial noises, clips from the Sprague Electric radio show, and interviews with former workers. Leaving the museum, some visitors chuckled at what passes for art these days, but Saltamartini seemed upbeat. "I've never been crazy about modern art," she said, "but there's always room for change."

MASS MoCA's dreamers have built a museum, but if you build it, will they always come? Contemporary art may fit a factory, but some aren't so sure it fits North Adams. "We thought

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Robert Rauschenberg's compelling work in progress *The 1/4 mile or 2 Furlong Piece*, on loan from the artist, graces the walls and floor of MASS MoCA's cavernous Building Five.

the Sprague complex would work better as shopping outlets," Esther Poplaski said. Art Santelli wondered how many will pay to see contemporary art. "They have some really crazy stuff in there," he told me. "You take a piece of tin, weld something here, put bolts on it and call it art. In the courtyard, they got trees planted upside down!" MASS MoCA's remote location, while making space affordable, could work against the museum. North Adams lies three hours from Boston and four from New York City. Summer crowds may come from symphonic Tanglewood or historic Stockbridge, and fall will always bring "leaf peepers," but New England winters may prove longer than ever inside MASS MoCA. Not many will visit in January, Thompson admits, but he isn't too worried. Locals will enjoy regular theater, films and concerts all year round, and MASS MoCA will not have to survive on admissions alone. Two buildings are already rented out to businesses, and a third commercial building, though not fully renovated, is already booked. Reaching out to the community, MASS MoCA has opened a public computer center and is working with local elementary schools to help students understand art and make their own. "MASS MoCA can't survive if it's just *in* North Adams," Mayor Barrett says. "It has to be *part of* North Adams."

Even as visitors come to gawk at the museum's room-size art, planning proceeds on the next phase. Nineteen buildings remain to be renovated. Some may eventually be torn down, others reworked in some back-to-the-future style yet to be dreamed. Like Rauschenberg's wraparound painting, MASS MoCA is a work in progress. "Most museums have a sense of finality," Thompson said, "but we've just barely begun. Ten years from now art will be radically different, and we'll be able to respond to the changes. For an institution focusing on the future, this is a very interesting place to be."

Bruce Watson wrote last month on the ways of eels. Alfred Eisenstaedt Award winner Frederick C. Charles lives in New York City.

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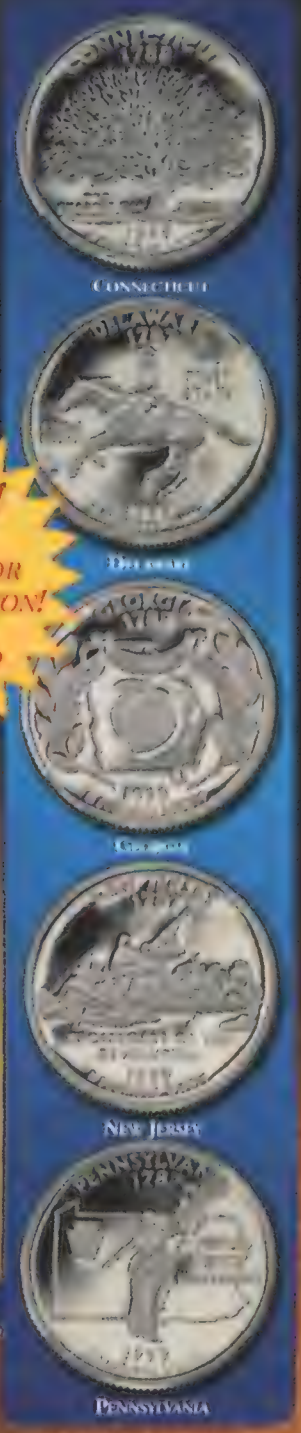

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Myles & Me

The author, who according to family legend is a direct descendant of Myles Standish, surveys the checkered career of his pugnacious Pilgrim ancestor

BY DAVID STANDISH

BECAUSE OF MY LAST NAME, MYLES STANDISH HAS loomed larger in my life than I ever really wanted. For as long as I can remember, upon meeting me, people have smiled and said, "Oh, like Myles?" Yes, like Myles. This had already gotten a little old by the time I hit kindergarten. I'm supposedly a direct descendant. Or so my father always claimed. He said his grandmother had done the genealogy, but I never saw it, and he was a salesman for a big paint company—and paint always makes things look better, so I don't know for sure. In any case, it's family lore. And then while I was in graduate school, avoiding the jungles of Vietnam in the name of scholarship, my favorite professor in American Studies was a specialist in the Colonial period, so I learned more about Standish and the Pilgrims than a normal person might.

He's one of the best-known Pilgrims because of the 1858 Longfellow poem, of course. The one in which he's too shy and diffident about his love for Priscilla Mullins to tell her himself, and so sends his friend John Alden as an intermediary. Priscilla's eyes light up at Alden, and she says, "Speak for yourself, John"—and Standish is out to lunch.

But it never happened. Standish, to a fault, was *nothing* like this. Pugnacious, touchy, short-tempered, aggressive, yes, but no shrinking violet. One contemporary historian would describe him as "a little chimney" that "is soon fired."

He'd been employed as a professional soldier fighting in the Low Countries against Spain when he encountered the Pilgrims, who'd left England for Holland in 1608 in order to follow their religious ideas, which were more independent than the official Anglican church really appreciated. Standish himself wasn't a believer. Even though he became one of the most prominent leaders of the colony, he never did formally join the Separatist church. The Pilgrims apparently didn't care. They wanted him for his military skills.

My professor sometimes called him "the first cop in North America."

His life, before joining the Pilgrims at the age of 36, is virtually a blank. His will mentions family land and estates on the Isle of Man, but there aren't any records proving conclusively that he came from there. One possibility that's been suggested is that he's not listed on any birth registers because he'd changed his first name to Myles, derived from the Latin for "soldier," *miles*. His birth name, in this view, might have been a traditional one from the Isle of Man, a most improbable moniker—ready?—Mold. If so, it's hard to blame him for changing it.

Norman Standish, a genuine direct

ILLUSTRATION BY ROB DAY

descendant (unlike me) and Pilgrim historian, has a theory about Myles' alliance with the Pilgrims that I find appealing. In his reading of the meager evidence, Myles had been off fighting in the Netherlands when his grandfather died (his father had already passed away) and a younger brother back home on the Isle of Man snaked him. The younger brother, believing, or convincing himself, that Myles was no longer alive, aced him out by inheriting everything. Broke and cheated of his patrimony, he took the chancy job as the Pilgrims' military leader in the wilderness, even though he never did sign on as a member of their sect, to earn enough money to lay claim to his own land!

If it's not true, it should be.

The Standish family crest, which demonstrates various permutations over time, is pretty strange. A late 16th-century version features a shield with several "standing dishes" (round objects that look like plates), surmounted by a wide-eyed owl holding a dead rat in its talons. You tell me. Above and below it is a motto in French, which translates as "I desire to do what I must, come what may"—which makes me think I might actually be a descendant after all, explaining the fact that against all good sense I've been a freelance writer for 20 years. And Standish has been said to mean "stony field," a description that pretty well characterizes the lot of most of us freelancers.

Not long after the Pilgrims' arrival, in November 1620, Standish was appointed military commander, and quickly began organizing the Pilgrims into military units. That first winter must have been horrible. They were all still living on the *Mayflower*. Its exact replica sits at anchor in Plymouth Harbor today, and it's incredibly dinky. It's amazing that it made it through the rough North Atlantic crossing, and a winter on it had to be bone-chillingly cold and cramped. Practically everybody got sick. By spring, half their number had died, among them Rose, Standish's first wife. He was one of just six or seven who didn't become ill. In fact, in his history, *Of Plimouth Plantation*, a document magnificent in its direct simplicity, Governor Bradford, longtime leader of the colony, singles out Standish for his tireless ministrations to the sick and dying.

Standish did indeed have a real problem controlling his volatile temper. He was forever flying off the handle at the slightest provocation.

But Standish had a real problem with his temper. He was forever flying off the handle at the slightest provocation. In some ways it's not hard to understand. People made fun of the way he looked. He had a fiery red beard and he was very short. Not something you'd expect a hardened John Wayne type to be. So it's little wonder that he had an attitude—fair or not, it had to make it harder for him to command respect as a military leader if he seemed to be standing in a hole. Not far from Plymouth, one Thomas Morton, leader of the ribald colony Merry Mount, was busted by an expedition led by Standish and sent back to England (more on this shortly). Once Morton returned home, he took his revenge, writing about the incident in his satirical *New English Canaan*, where he dubbed Standish "Captaine Shrimpe."

The Pilgrims didn't encounter huge tribes of vicious "salvages." Luckily for them, if unhappily for the local tribes, there had been a terrible epidemic in 1617 that had decimated the native population—a gift from the Europeans that was likely smallpox. So Standish's small, inexpert army had at first only a few minor alarums and excursions. The epidemic had left a result of equal importance—Indian cornfields, lying fallow and untended. If the Pilgrims had had to clear the land before being able to plant it—backbreaking work in the best of times—it's possible that the colony might never have survived.

And even so, they required the considerable help of Squanto, or Tisquantum. The story of how he helped them is well known, but I've often wondered *why* he did so. Not only had the diseases brought by the Europeans left him as the last remaining member of his tribe, but his own personal experiences with the newcomers had been checkered at best.

He'd been brought to England in 1605, and returned in 1614 with Captain John Smith. Shortly afterward, he and 20 other members of his tribe were kidnapped and taken to Málaga, Spain, where they were sold into slavery. He wound up with some friars, and eventually made his way to England, living there with a merchant for several years before returning on another ship. Squanto was dropped off at his original home near Plymouth—six months before the arrival of the *Mayflower*—where he found that his entire tribe had died of plague. He was living with a neighboring tribe when the Pilgrims landed, and immediately attached himself to them, showing them how to survive in the wilderness. He also served as their interpreter in encounters with local Indians, especially the powerful Massasoit, the sachem, or chief, of the

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Wampanoag. Squanto was rightly and literally considered a godsend—though his assistance was not based entirely on altruism. His importance to the Pilgrims gave him considerable influence among the local Indian tribes, which he reveled in.

Squanto's position was further enhanced by a truly creative lie he told: the Pilgrims had the European plague buried beneath their fort, a bearer of death which they could and would unleash at a word from him. In fact, the Pilgrims did keep their gunpowder there, which probably seemed just as marvelous and destructive to the Indians, but you have to give Squanto an A for originality. The Pilgrims, canny and pragmatic when it suited their purposes, did little to disabuse the Indians of this fabulous notion.

Even with his help, the Plymouth Colony had a tough time of it for years. It's not generally remembered that this was a business investment, not simply a religious experiment. A number of venture capital investors in London had put up big money for the enterprise and expected both repayment and profit. But it was never forthcoming. The Pilgrims were lousy businessmen, a flaw that was compounded by repeated bad luck.

Beginning with where they had landed and set up shop. They were aiming for "Virginia," which then designated an area extending much farther north than it does now—but not all the way to cold Cape Cod. Their specific goal had been the mouth of the Hudson (which would have made the song go "New Plymouth, New Plymouth, it's a heck of a town . . . "), but the *Mayflower* made landfall in a much harsher region.

Even worse, early in the fall of 1621, Standish led an exploring expedition up the coast from Plymouth, and they came upon for the first time what would soon be known as Boston Harbor. They must have felt like kicking themselves. Here, so close, was a har-

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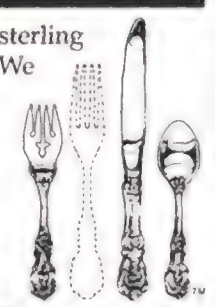

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bor far better than their own, with adjoining fields both more extensive and potentially productive—and it could have been theirs. The site at Plymouth was a poor second. They talked about relocating, but the prospect was a daunting one. The swift success of the Massachusetts Bay Colony, planted there in 1630 and quickly outstripping them, must have been galling.

As they were looking over Boston Harbor on this first visit, they were spotted by a number of Massachusett Indian women on a beach, most of them young, and all wearing abbreviated garments made from stitched-together beaver pelts. The Pilgrims were more aroused by the pelts than the women—since beaver was one valuable commodity they hoped to send back to England to pay off their debt. Seeing this, Squanto matter-of-factly suggested that they simply strip the women and head for home. But they didn't need to. When the women saw the "bright trinkets" one of the Pilgrims produced to suggest a trade, they stripped off their pelts without hesitation. The Pilgrims departed, valuables secured.

The bountiful First Thanksgiving did turn out to be a really good party.

The bountiful First Thanksgiving did not herald lasting prosperity, even though it did turn out to be a really good party. With Squanto's help, the Pilgrims had established friendly relations with Massasoit—perhaps too friendly. He showed up with 90 hungry braves. Standish, happy for any occasion to do his military thing, had his troops perform a dress review. They played games, and ate and drank and made merry for three days.

This calls to mind another misconception about the Pilgrims (like the idea that they only wore drab black and white clothing—in fact, except on Sunday, they wore various colors). They were decidedly *not* teetotalers. They drank beer at all their meals—children included. When the beer they'd brought along on the *Mayflower* ran out, and they were reduced to drinking dread *water*, they fairly howled at the hardship. By the time of the First Thanksgiving, they seem to have managed a more festive scenario, at least foodwise.

Much as we might wish for a complete account of that legendary feast, no exhaustive rendition exists. (The Pilgrims, after all, didn't realize this was the inception of a national holiday.) Foods that may have graced their table included venison, duck,

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goose, clams and other shellfish, cod, eels, bass, Indian corn and corn meal, leeks and watercress, with dried wild plums and berries as dessert. Bradford's account of that year's harvest season does mention wild turkey, which was abundant in the forests. Something else the Pilgrims might have eaten, since it's recorded that they sometimes did so, but which isn't mentioned, are eagles—so they might have had a little roast National Bird as well.

But they were celebrating too soon. Greater demands than the Pilgrims had anticipated were going to be imposed on their food supply. They thought that additional supplies had arrived in November—the First Thanksgiving was held most likely in October—when the *Fortune* put in at anchor. But all it brought was 35 newcomers—and no provisions, simply more mouths to feed. They loaded up the ship with cargo for a return voyage, mainly beaver pelts and lumber for clapboard, which when sold in England would have put a noticeable dent in their debt to the "Adventurers," as their London investors were known. But the *Fortune* should have had "Bad" appended to its name. It set sail in December and was captured by French pirates, who diverted it to an island off the French coast, where they took everything of value. Those aboard were robbed and put in prison for two weeks before being released. Finally, the poor beat-up *Fortune* limped to England, empty and forlorn. The Adventurers were more put out by their loss than sympathetic to the Pilgrims.

More bad luck followed in July 1622 with the arrival of two more ships, the *Charity* and the *Swan*. Once again, the Pilgrims' hopes brightened at the sight of the sails—surely they must be carrying more supplies!—and again the cargo consisted entirely of newcomers, 60 of them this time. Worse still, this group carried a document authorizing them to establish a rival colony nearby on Boston Bay. And this crowd was decidedly low-rent. "The expedition . . . ," as Colonial historian John S. Erwin put it, "consisted of men utterly devoid of principle."

A letter to Bradford from a friend in England, secretly carried on board the ship, cautioned: "The people they take are no men for us. . . . I fear these people will hardly deal so well with the savages as they should. . . . Signify to Squanto that they are a distinct body from us, and we have nothing to do with them, neither must be blamed for their faults, much less can we warrant their fidelity."

It did not take long for the newcomers at Wessagusset on Boston Bay to decide they would simply steal corn from the Indians.

Good advice, but it didn't work.

Soon this motley crew had begun a settlement at Wessagusset on the south end of Boston Bay. Conducting themselves as grasshoppers, not ants, they rapidly "made havoc of their provisions." It didn't take long for the newcomers to decide they would simply steal the corn from the Indians. Word of this spread among the local tribes. The tentatively established Anglo-American relations hit a new low, further exacerbated when it was learned that the Wessagusset colonists had a desperate plan to go on a plundering expedition for corn, to "take it by violence" from the tribes living on Cape Cod. Suspicions compounded by misunderstandings quickly had both sides bristling.

This set the scene for Standish's first big military moment.

The events leading up to it are too tangled to go into here, but the situation became so volatile that the leaders of the Plymouth colony felt they had to take action. They believed that a number of Massachusett Indians, led by a "notable insulting villain" named Wituwamat, were planning an attack on the Wessagusset bunch—but intended to do in the Pilgrims, too, since they would no doubt come to the aid of their scheming white brothers. The Pilgrims decided on a preemptive strike.

It was, however, not to be a head-on assault. Rather, they determined on a stratagem to "take them in such traps as they lay for others." Standish was to lead a small contingent to Wessagusset and "pretend trade as at other times." The strategy called for drawing the Indians to the settlement, and then falling upon them in a sneak attack when the time seemed right.

What followed wasn't exactly the high point in Pilgrim history.

Standish and eight others made for Wessagusset and went straight to the governor, informing him of their plans. So Standish and his men put on a happy face and began trading. After a couple of days Wituwamat, and a companion, one Pecksuot, showed up—and made the mistake of insulting Standish.

Pecksuot, an imposing figure, told Hobomok, an Indian who like Squanto had attached himself to the Pilgrims, "Tell him we know it [the planned sneak attack], but fear him not. Neither shall we shun him, but let him begin when he dare." And Pecksuot probably sealed his fate when he said directly to Standish: "Though you are a great Captain, yet you are but a little man, and though I be no sachem, yet I am a man of great strength and courage."

You can practically see Standish chewing his beard, steam coming out of his ears.

And he had it in for Wituwamat anyway, having suffered his derision during an earlier encounter at an Indian settlement on the Cape. Standish had been there on a trading expedition, and was already miffed because, in his opinion, the tribe's sachem wasn't giving him "entertainment" as grand as the chief had earlier provided for Bradford. Standish was perhaps overly sensitive to such social slights. And then Wituwamat showed up and proceeded to make a long speech putting down the whites. He "derided their weakness," wrote one Pilgrim, "especially because (as he said) they died crying, making sour faces, more like children than men." This was bad enough, but the tribe's sachem also began giving Wituwamat better "entertainment" than he gave Standish—though what that might mean exactly is a little puzzling. Superior cuts of meat? The best log to sit on? In any case, Standish exploded. He "scorned at their behavior, and told them of it."

Standish got his chance for reprisal at Wessagusset.

Wituwamat and Pecksuot, along with two others, one of them Wituwamat's 18-year-old younger brother, were talked into coming inside the building where the Pilgrims were trading, lured by an invitation to a feast, it was later said. Without warning, the door was locked, and Standish and his men went at it. Standish ripped the knife from the thong Pecksuot wore around his neck and stabbed him. Outnumbered as they were, the Indians nevertheless demonstrated considerable courage. The Pilgrims' own account later called it "incredible how many wounds they received before they died, not making any fearful noise, but catching at their weapons and striving to the last." Only Wituwamat's younger brother would live through the gory encounter, but not for long. (Soon afterward, "the Captain caused to have [him] hanged.")

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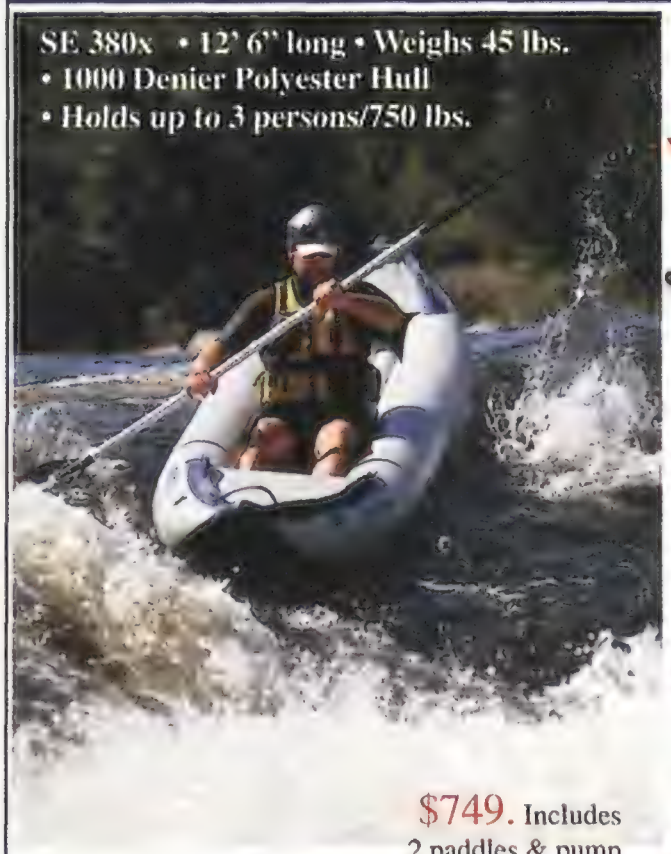

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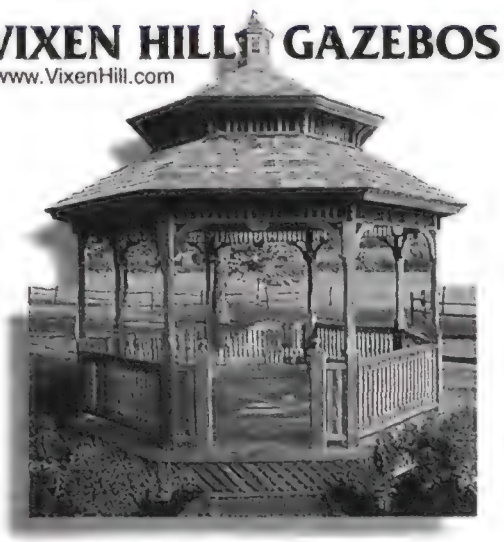

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The colonists killed three more braves and then pursued another band of Indians who were in the vicinity. These Indians made it to a swamp, where they holed up in safety, shouting insults at their pursuers. Standish didn't get the fight he was looking for when he called for their leader "to come out and fight like a man, showing how base and woman-

After this incident, most of the Wessagusset settlers took off for Maine.

like he was in tongueing it as he did."

He took a trophy of war back with him to Plymouth—Wituwamat's bloody head. It was displayed on a spike at the fort, where it remained as a reminder of the skirmish, bleaching in the sun, for years to come.

On hearing of this incident back home in Holland, the Pilgrims' spiritual leader, John Robinson, wrote to Bradford regarding Standish, saying: "Let me be bould to exhorte you seriously to consider of ye disposition of your Captaine, whom I love. . . . He is a man humble and meek amongst you and towards all in ordinarie course. . . . But there may be wanting that tendernes of ye life of man. . . . It is a thing more glorious in men's eyes than pleasing in God's, or conveniente for Christians, to be a terrour to poore barbarous people."

The killings did, however, have the desired result. The Indians were dazed and confused: It "hath so terrified and amazed them . . . they forsook their houses, running to and fro like men distracted, living in swamps and other desert places, and so brought manifold diseases amongst themselves, whereof very many are dead."

After this incident, most of the Wessagusset settlers took off for Maine, where they could catch English fishing vessels home. Not only

had the Pilgrims gotten rid of a moral blight and a nuisance, they'd eliminated noticeable competition in the profitable beaver trade.

Finally, by 1625, the Pilgrims were having a better time of it. The Plymouth colonists had gotten the knack of growing and harvesting corn, so they were no longer half-starving most of the time, troubles with the Indians had stopped and, around that time, a recent arrival named Francis Sprague opened the first tavern in New England. Bradford wrote to a friend that they had "never felt the sweetness of the country till this year."

But it's always something.

Yet another rival colony had sprung up not far from Wessagusset, on the site of the present town of Quincy. It was first called Mount Wollaston, but soon had another name—the infamous Merry Mount, made into legend more than 200 years later in a short story by Hawthorne. Standish doesn't figure in the Hawthorne story, but Merry Mount provided him the opportunity to make his next big bust.

Its object was Thomas Morton.

Morton had come as an associate of the colony's original leader, Captain Wollaston. Their purpose was purely profit, expecting to become "great men & rich all of a sudaine." But on discovering the hardscrabble reality, that their dreams of easy wealth were "castls in ye aire," Wollaston came up with a surefire money-making scheme. Since most of the colony consisted of indentured servants—Morton had brought along 30 of his own—Wollaston decided to take a portion of them and sail south to Virginia, where he could sell them for their term of indenture. Which he did, finding it so profitable he wrote from Virginia telling his lieutenant to send more.

Morton had other ideas. The Pilgrims liked to paint him as the Devil incarnate, but what he did next had its humanitarian as well as its wild

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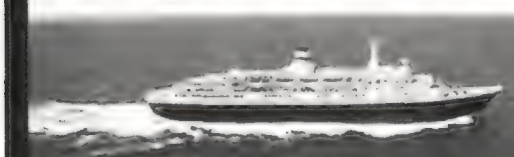

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party-down side. At a drunken feast that he hosted, Morton suggested to the remaining indentured servants and others in the colony that they simply ignore Wollaston, get rid of the guy he'd left in charge, and take over. As far as he was concerned, they were all free men.

Morton, an Oxford-educated aristocrat who had been a drinking buddy of Ben Jonson's, rechristened the colony "Ma-re Mount," or "Mountain by the Sea." But his Latin pun was not lost on the Pilgrims, who knew he meant "merry." One of Morton's first acts was to cut down an 80-foot pine tree and turn it into a maypole, celebrating by brewing up a lot of beer and inviting any who cared to join the party—including the Indians. The festivities seem to have gone on unabated, continuing for many days, a "riotous prodigality," according to Bradford, who characterized Morton as the "lord of misrule," and his colony a "schoole of Athisme."

It brings to mind H. L. Mencken's famous line defining Puritanism as the fear that someone, somewhere, might be having a good time. But in fairness to the Pilgrims, their displeasure regarding Merry Mount had more cause than mere pious disapproval. Merry Mount was giving them two fairly practical problems.

One was that it was serious competition in the fur trade. Morton got on well with the Indians, to the extent that he was teaching them how to use muskets and hiring them to hunt for him. Since they were far better in the woods than the Englishmen, Merry Mount was cleaning up. The Pilgrims' protests were framed in terms of Morton's arming of the Indians, but this may have had more to do with the number of pelts being snagged for Morton than any immediate threat posed by the Indians.

The second was that Morton's overly democratic ideas were causing a servant problem in Plymouth. Not only had he freed all the indentured

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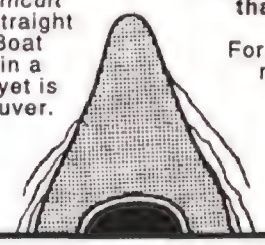

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servants that had been brought to Mount Wollaston, there was an open invitation for anybody else to join Merry Mount—and be free. The prospect of a nonstop party and no tedious unpaid chores was having a certain appeal to the indentured servants stuck in Plymouth. As Bradford put it—I do love his writing style and spelling—they "would entertaine any,

So the Pilgrims decided they had to raid Merry Mount and shut it down.

how vile soever, and all ye scume of ye countrie or any discontents would flock to him from all places."

So the Pilgrims decided they had to raid Merry Mount and shut it down. Standish led the assault, naturally. But this one, happily, was considerably more seriocomic than their previous foray, on Wessagusset. Morton left his version in *New English Canaan,* his lively satiric rendering of what happened, and the Pilgrims left theirs. Both are as self-serving as you might expect—so much so it's hard to tell what really occurred.

According to Morton, the Pilgrims were overbearing bumblers. He says they burst into Merry Mount to nab him, but he was off in a small settlement nearby. They tracked him down and put a guard around the house he was in. They celebrated their easy success—he says—by getting drunk, which allowed him to slip away unnoticed in the night, back to Merry Mount. On discovering this the next morning, Standish was in a fury. Morton observed that Captaine Shrimpe "took on most furiously and tore his clothes for anger to see the empty nest, and their bird gone." Following him back to Merry Mount, they demanded his surrender, which he says he agreed to so that no one would be killed. But on coming out

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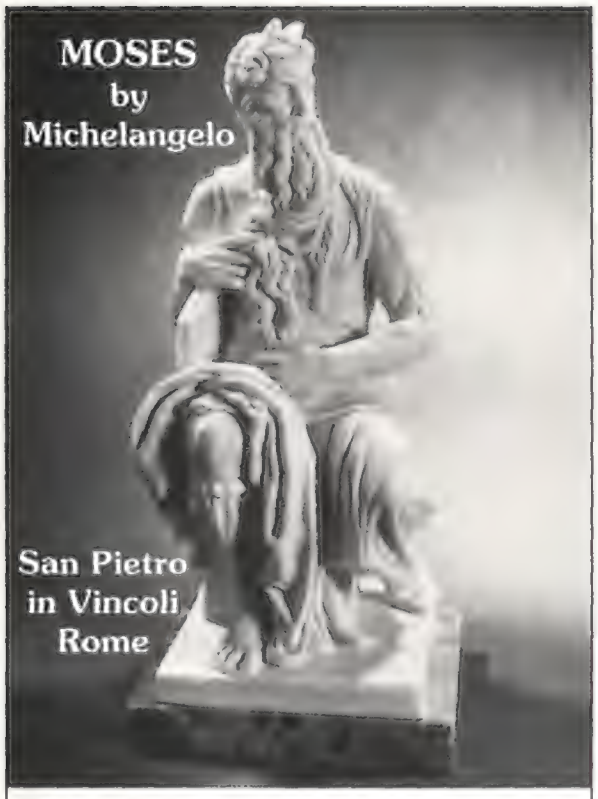

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of his house, Standish leapt upon him, and others joined in: "So eagerly was every man bent against him . . . that they fell upon him," Morton wrote of himself, "as if they would have eaten him."

In the Pilgrim version of things, on arriving at Merry Mount, they found Morton and several others barricaded in a building, heavily armed. But in

The Pilgrims, it was said, "made a great shewe of Religion, but no humanity."

this alternate reality, it was Morton and his friends who were drunk—so bombed they were incapable of doing any damage, and so lacking in judgment that they burst out of the building to attack but were too befuddled to use their weapons, and so were easily captured.

In both accounts, however, Morton was taken back to Plymouth to go before the council. Standish argued urgently for Morton's execution. No surprise there. But Bradford and his council decided on a milder course, though still a tough one. He was to be sent back to England, no great hardship, but to keep him out of mischief until the next ship left, they dumped him on a small offshore island with little more than the "thinne suite" he was wearing—and with winter coming on. He commented in *New English Canaan* that they made a "great shewe of Religion, but no humanity."

Morton shivered on the island for a month before his forcible return to England. But he was back a year later—having gotten himself a job as secretary to Isaac Allerton, the Pilgrims' business representative in England and an assistant governor of the colony. When the pair arrived in Plymouth, Allerton "brazenly led [Morton] right into town and lodged him

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at his own house." Bradford was miffed: it was "as if it were to nose them," he reported.

Hard to say what Allerton was thinking, but the Saints were having none of it. They ran Morton out of town—and quickly he was once again up to his old tricks at Merry Mount. Nobody in England had taken the charges against him seriously, so there was nothing the Pilgrims could do about it. Morton went on like this for some time, until his antics—and, once again, his success at the fur trade—finally provoked Governor John Endecott of the Massachusetts Bay Colony to bust him and send him back to England yet again, after chopping down the maypole and burning down his house. It's this event that Hawthorne drew upon for "The May-Pole of Merry Mount," the short story that made Morton's stomping ground famous.

According to Bradford's account, Morton didn't fare so well in England the second time. "He lay a good while in Exeter Gaole," recorded Bradford, "for besids his miscarriage here, he was vemently suspected of ye murder of a man that had adventured moneys with him when he came first into New England"—statements historian George Willison characterizes as "libels." According to Willison: "Morton, on the contrary, went to work for Sir Ferdinando Gorges [a rival Adventurer], with the specific assignment of voiding the Plymouth and Bay patents. And what a joy that must have been for 'mine Host of Ma-re Mount.'"

He was to come back to haunt "Captaine Shrimpe" one more time. In 1643, the irrepressible Morton reappeared in Plymouth, this time as the representative of several wealthy Englishmen who owned a lot of land in New England. Since he was so well connected, the Pilgrims felt they couldn't simply throw him out this time. And so, reluctantly, they allowed him to spend the winter there.

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Standish, according to one observer, complained vigorously about it—"especially that he is so neer him at Duxburrow, & goeth sometimes afowling on his ground"—and made noises about shooting him, but managed to control himself.

Early the next year, as Morton was about to depart by ship, the good Puritans in Boston got wind of this and captured him. Those colonists, still holding a grudge that he hadn't been properly punished, tossed him in jail without a trial or new charges, where he sat for a year, "in irons, to the decaying of his limbs," until he was finally released. Morton made his way to a friendly settlement in Maine but died there a couple of years later. His enemies dismissed him as "poor and despised" and "old and crazy." One observer reported that near the end of his life, the hapless Morton had been so down and out that he was "content to drinke water." How low can you go?

Standish himself died about ten years later, in 1656, at the age of 72. Two and a half years after Rose's death that first winter, he had married a woman named Barbara—possibly Rose's sister—and they'd had a large family. Six sons and one daughter. And in a sort of sweet twist, one of his sons, Alexander, married Sarah Alden—daughter of John Alden and Priscilla Mullins.

Alexander is the one I'm supposedly descended from. As I said at the beginning, it's all just family lore, but I do enjoy believing it, and there seems little harm. I especially like the notion that one of my ancestors might be, not blustery old Myles, but fetching Priscilla.

Writer David Standish, who lives in Chicago, is the author of the forthcoming book The Art of Money *(Chronicle Press), based on an article he wrote for* Smithsonian *(August 1998). Illustrator Rob Day, who includes portraiture among his areas of specialization, works from Indianapolis, Indiana.*

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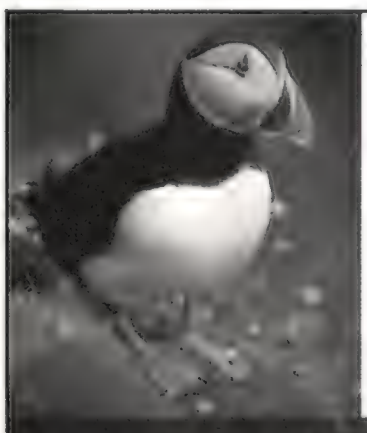

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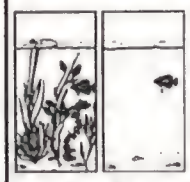

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The Tulip: The Story of a Flower That Has Made Men Mad

Anna Pavord

Bloomsbury USA

(St. Martin's Press), $40

"I SUPPOSE," SAYS ANNA PAVORD, "there must be one or two people in the world who choose not to like tulips." There are more, however, who think of tulips as common and cliché—unsubtle masses of monochromatic color splashed across springtime flamboyantly as the braid on a hotel doorman's uniform. Give the flower a chance. Under Pavord's guidance, even jaundiced critics will come to appreciate this blossom, "a flower that has carried more political, social, economic, religious, intellectual and cultural baggage than any other on earth."

The mania for tulips—financial and aesthetic—that swept Holland in the 1630s is only a small part of this lavishly illustrated and wonderfully readable tale. Pavord, a garden writer who lives in Dorset, England, discusses tulips in the wild (progenitors of the domesticated tulip) and describes the whimsies of fashion that led new varieties to supplant older ones. She shows tulips in painting and sculpture, tells how the flowers were nurtured and displayed, and reveals how the Dutch—fine growers and even better salesmen—captured the modern market for tulip bulbs. It is a capacious, compelling story that you don't have to be a gardener to enjoy.

The tulip's ancestors came from somewhere in Turkey or Central Asia, where more than a hundred species grow wild. The flower was domesticated by the Ottomans, who planted vast numbers of bulbs in their palace gardens and were as fascinated by rare and exotic tulips as the Dutch at the height of tulip mania. The Turks, who favored tulips with long, narrow flowers and dagger-shaped petals, painted them on pottery and glazed tiles, embroidered them on textiles, and even had a special vase, the *laledan*, for displaying single blossoms.

Tulips entered Europe in the middle of the 16th century, a time when exotic products like turkeys, tobacco and tea also were introduced to that continent. Indeed, the first bulbs to arrive in Antwerp, in 1562, were so unfamiliar that the merchant who received them, regarding them as some exotic form of onion, "had them roasted over the embers of his fire and ate them with oil and vinegar." Within a few decades, these curiosities were growing in gardens all across Europe. "No woman of fashion stepped on to the street without a posy of rare tulips," the writer assures us, and each variation of the flower had its own special name. There were Agates and Jaspers, Parrots and Dukes. The color and shape of the flower's interior basal blotch were carefully evaluated, as were the shape of the petals, the mix of colors in the blossom, and the way in which those colors happened to be edged, striped or blended.

The flowers that truly made men mad were those that had "broken." Today, we know that broken tulips are infected by a virus spread by aphids, but before the 20th century the process was a mystery. One year a bulb would produce a normal flower, and the next year it would

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In 1623, more than a decade before the mania collapsed, one particular tulip bulb sold for more than six times the average annual income in Holland.

"break" into something completely different, with petals "feathered" and "flamed" in intricate patterns as unique and distinctive as fingerprints. This pattern would reappear each time that the bulb bloomed, and buds off the main bulb would retain the parent flower's elaborate design—but because the virus weakened the plant, broken tulips reproduced very slowly. Rare, distinctive and beautiful: it was indeed a recipe for speculation, and in the trading centers of the Netherlands a speculative bubble of legendary proportions would ensue.

The most ruinously expensive flower was "Semper Augustus," a red-and-white beauty with pointed petals and a bloom as graceful as a hand-blown goblet. In 1623, more than a decade before the mania collapsed, a bulb of this flower sold for 1,000 florins—more than six times the average annual income in Holland. And at the height of the speculation it sold for ten times that amount, enough to buy one of Amsterdam's finest homes.

The bulbs were sold by weight, and like carats of diamonds and troy ounces of gold, tulip bulbs were weighed in their own special units, called *azen*. A still life of flowers painted by one of Holland's finest painters was less expensive than a fine tulip, and even after prices collapsed, rare tulips remained luxury items that only the wealthy could afford.

The popularity of tulips rose and fell over the next 200 years. Hyacinths were more favored at times, and late-blooming tulips became more desired than early-blooming ones. Bybloemens (tulips with deep purple markings on a white ground) were favored by some growers, Bizarres (red or brownish black on yellow) or Roses (red or pink on white) by others. Still, every reader of Thackeray's 1837 novel *Ravenswing* knew what the author meant when he said one character was "a tulip among women, and the tulip fanciers all came flocking round."

Eventually, hobbyists wearied of debating the merits of tulips like "Daveyana" and "Miss Fanny Kemble." They grew tired of arguments about a bloom's most desirable shape. These squabbles, Pavord complains, reduced "the sublime, reckless, irrepressible, wayward, unpredictable, strange, subtle, generous, elegant English Florists' tulip to a geometrical equation." By 1885 the obsession with tulips had collapsed, and "the fabulous striped, feathered, and flamed flowers that had intrigued growers for centuries were cast aside."

Modern tulips, bright and cheerful, are extraordinarily popular. The Netherlands produces some three billion bulbs a year, in fields that cover, Pavord says, almost half the country. Selected for features like size, vigor and speed of growth, these flowers are the culmination of a 500-year history: no reader of Pavord will treat them dismissively again. But they also will long for a sight of those broken blossoms of the past, those beautiful flowers that drove men mad.

Reviewer John R. Alden writes from his home in Ann Arbor, Michigan.

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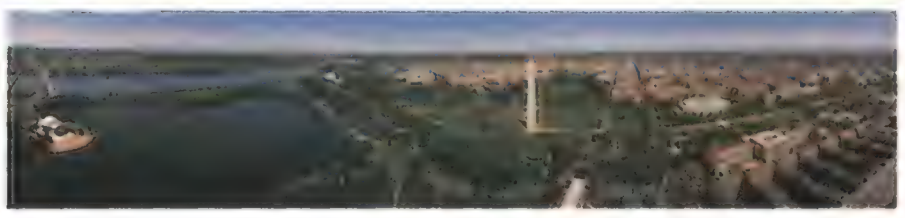

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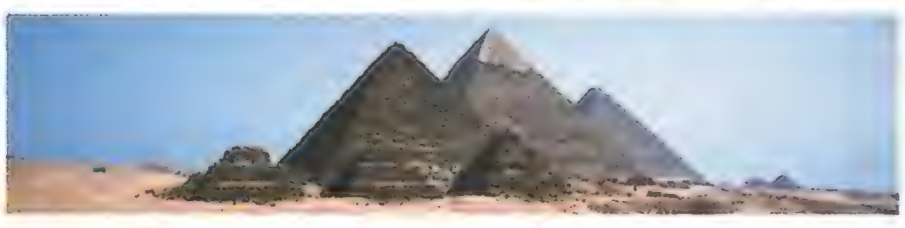

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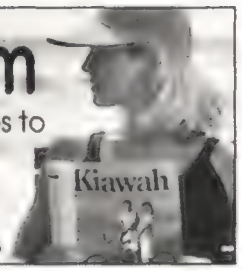

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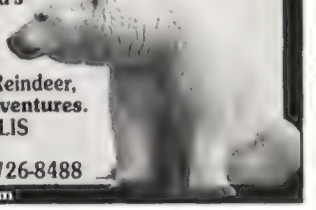

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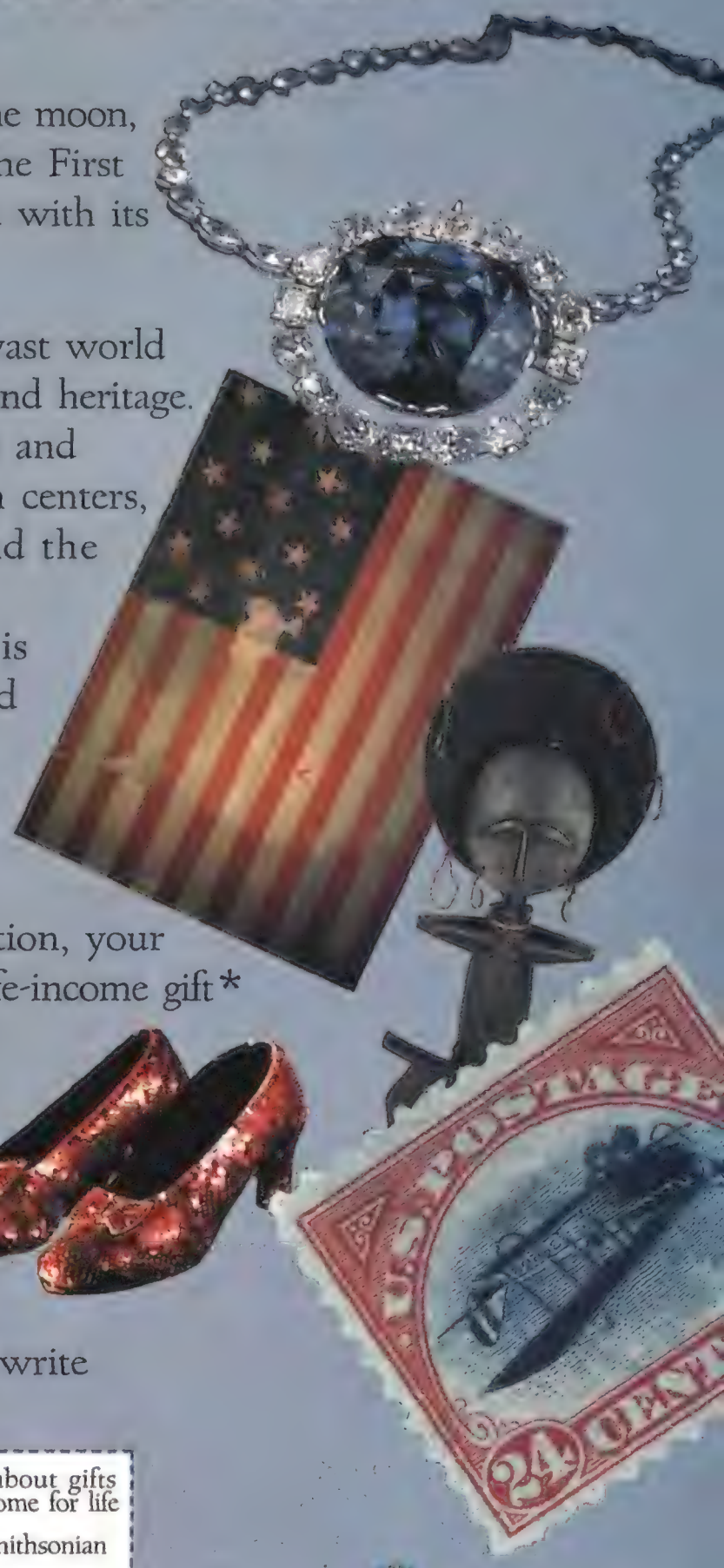

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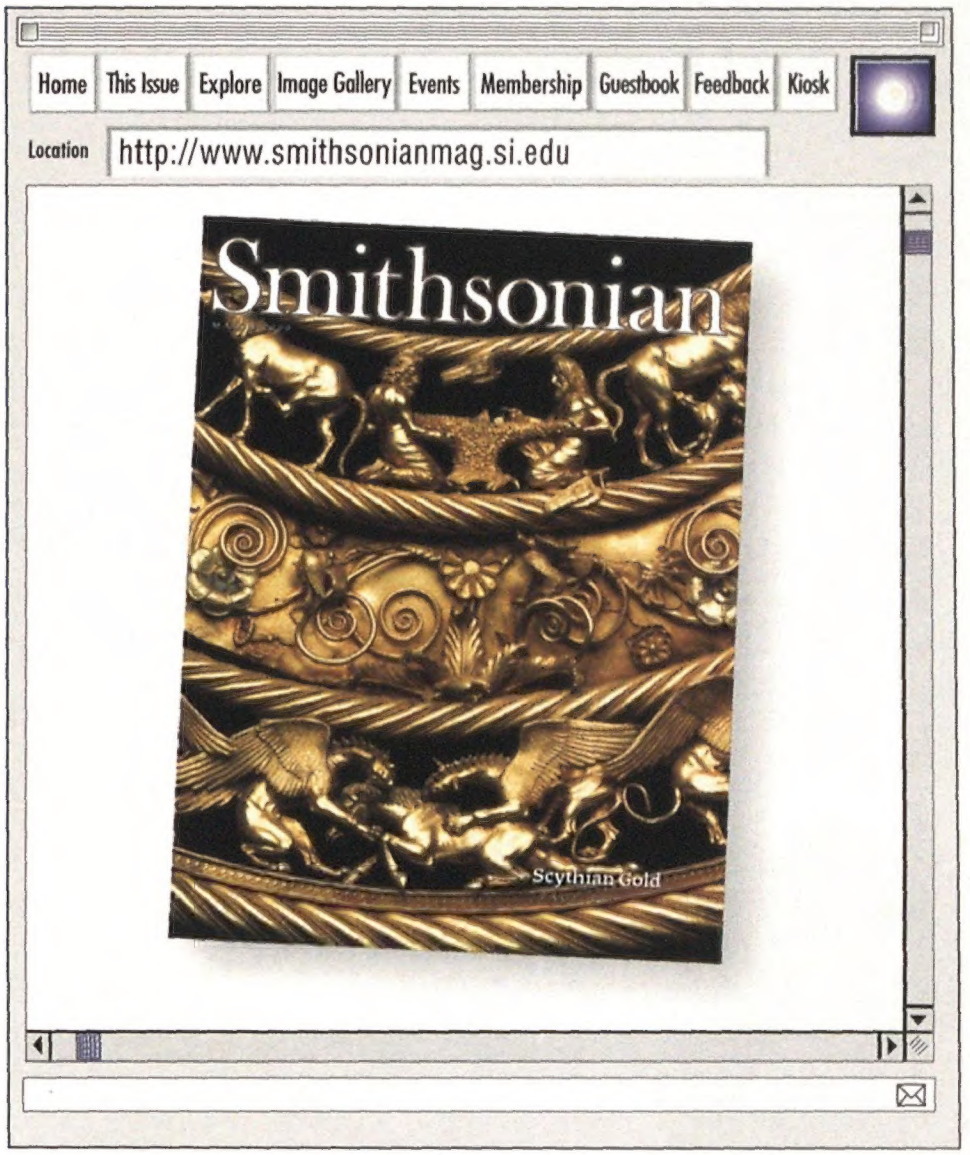

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THE LAST PAGE

I'm Shopping for Pants But Coming up Short

BY TED GUP

I AM FEELING QUITE SOPHISTICATED AS I STROLL through a fashionable Fifth Avenue department store looking for dress pants to wear to a soiree for my literary agent this evening. I am 49 years old, my book is about to come out and all I need is a proper pair of trousers to complete an ensemble of turtleneck and blazer. I positively reek of savoir faire as I approach a salesman in the men's department. "I am looking for dress pants," I say.

"What size?" asks he.

It is a question I loathe. "Thirty-four . . . twenty-eight," I reply, my voice trailing off in self-apology. I pray for mercy. Instead, he scans my legs to be sure they are long enough to reach the ground. "Twenty-eight?" he repeats, as if I have asked for the absurd, say, a sweater for my gallstone. Twenty-eight is not a pant length, it is an invitation to a roast—a number so shy of expectation that no self-respecting store carries it except as a gag or an act of charity.

"We carry nothing shorter than thirty," he says, standing no taller than I. "And what length do you wear?" I ask. "Thirty," he boasts, hoisting his pants clear up to his navel. Now he delivers the coup de grâce.

"Have you tried the boy's department?"

I recoil in horror. I am not, for one moment, about to mingle with some prepubescent schoolboys, tugging over a pair of dungarees. Out of the question. Am I not entitled to some shred of self-esteem? I'd sooner go to the party in purple knickers than show my face in the boy's department.

A moment later I find myself stepping off the elevator onto the third floor, the boy's floor, eyeing a rack of grotesquely colored pants and waiting for a gaggle of pimply lads to move aside and let me have a closer look. I knew I should have ordered from a catalogue. Let them wield the scissors and spare me this ignominy. A pair of "twenty-eights" should only arrive in a plain brown wrapper and be opened in the privacy of one's home.

For years I tried to wear a size thirty. People mistook me for a half-melted candle.

For years I tried to wear a size thirty, pretending my Chaplinesque cuffs were not sweeping the streets. People mistook me for a half-melted candle. How is it at 5-foot-8—near average height—I am held in contempt by the staff of every store I enter? Now, cowering in the boy's department, I hear the voices of adolescents cracking all around me. I wistfully remember at their age fearing that the pants might shrink too much. At my age, it is I who am shrinking.

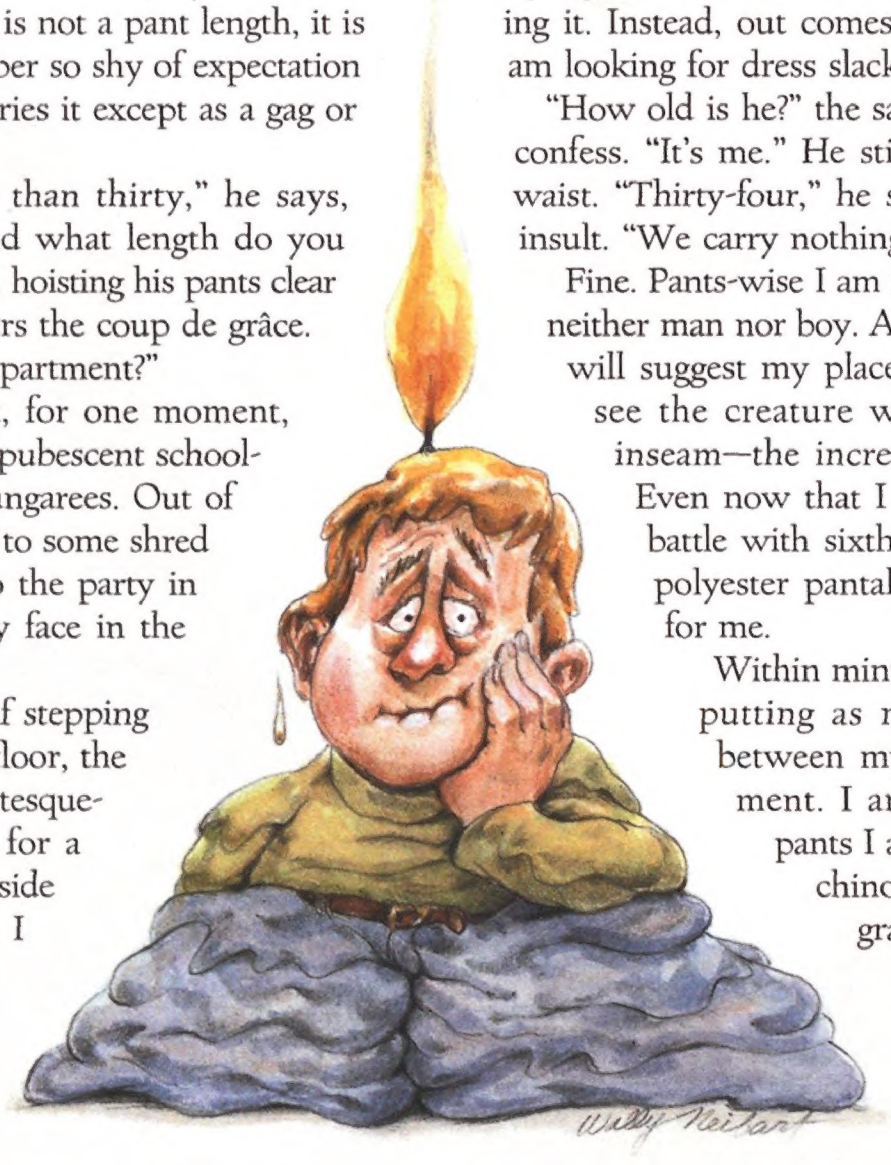
I start to walk away when a salesman intercepts me. "Help you, sir?" he asks. "You want to help me? Stretch my legs," I mutter. Well, not out loud, but I was thinking it. Instead, out comes something equally lame. "I am looking for dress slacks for a boy."

"How old is he?" the salesman asks. "Forty-nine," I confess. "It's me." He stifles a laugh and checks my waist. "Thirty-four," he says ruefully. Now the final insult. "We carry nothing larger than a thirty waist."

Fine. Pants-wise I am forever stuck between floors, neither man nor boy. At this rate, the next salesman will suggest my place is with the circus. "Come see the creature with the twenty-eight-inch inseam—the incredible human baobab tree."

Even now that I am willing to grovel, to do battle with sixth-graders for some miserable polyester pantaloons, there is nothing here for me.

Within minutes I am back on the street, putting as much distance as possible between myself and the boy's department. I am resigned to wearing the pants I arrived in, a pair of wrinkled chinos, too long by far. By God's grace, this evening's party will be dark, and I may once again hold my head high—and my pants, as well.



WALLY NEIBART

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